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(For Atlas and Gazetteer see End of Vol. V.

THE CHRISTIAN HERALD
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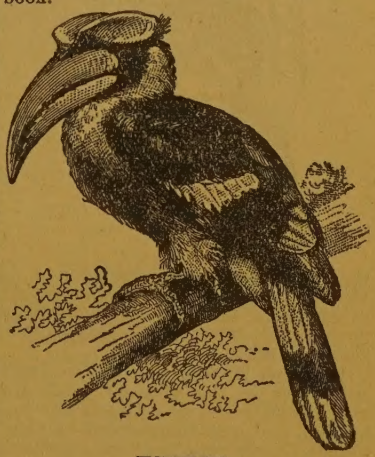
Horn, Hoorne, or **Hornes, Philip, Count van,** a Flemish soldier and statesman; born in 1518; was the son of Joseph de Montmorency-Nivelle, and of Anne of Egmont, and stepson of John, Count van Horn, who constituted him and his brother his heirs on the condition of assuming his name. Philip gradually rose to be governor of Gueldres and Zutphen, admiral of the fleet, and councillor of state. He fought at St. Quentin in 1557, and at Gravelines in 1558, and in 1559 accompanied Philip to Spain. On his return he joined the Prince of Orange and Egmont in resistance to Philip. On the arrival of Alva at Brussels he was arrested, in September, 1567, on a charge of high treason, and he and Egmont were beheaded in June, 1568.

Hornaday, William Temple, an American naturalist; born near Plainfield, Ind., Dec. 1, 1854. He was for a number of years chief taxidermist of the United States National Museum, Washington, and in 1896 became director of the New York Zoölogical Park.

Hornbills, a remarkable group of birds confined to Southern Asia and Africa, akin to the kingfishers and the toucans, remarkable for the very large size of the bill, and for an extraordinary horny protuberance by which it is surmounted, nearly as large as the bill itself, and of cellular structure within.

Hornbook, the primer or apparatus for learning the elements of reading, used before the days of printing, and common down to the time of George II. It consisted of a single leaf, containing on one side the alphabet, large and small, in black letter or in Roman. Then followed a form of exorcism and the Lord's Prayer, and, as a finale, the Roman numerals. The leaf was usually set in a frame of wood, with a slice of transparent horn in front — hence the name of hornbook.



HORNBILL.

Horne, Richard Henry (or Richard Hengist Horne, as he called himself after his return from Australia), an English poet and miscellaneous author; born in London, England, Jan. 1, 1803. He joined the Mexican navy and served through the war against Spain. On the conclusion of the war he was prostrated for a time by yellow fever, and after his recovery he traveled in the United

States. In 1828 he began his literary career, writing tragedies, poems, etc. He died in Margate, England, March 13, 1884.

Horned Toad, also called Horned Frog and Horned Lizard; a lizard found in Mexico, Texas, Oregon, and California.

Hornet, the largest species of wasp found in America. The thorax is mostly black, the fore part rufous; the abdomen is yellow, with three brown points on each segment. The sting is very painful. The hornet is a

HORNET.

very voracious insect, seizing and devouring bees and other insects, or carrying them to its nest to feed its young. The nest is commonly in some sheltered place.

Hornet, The, a ship of the American navy in the War of 1812. She was of 18 guns rating and 480 tons burden, and was commanded by Capt. James Lawrence, afterward commander of the "Chesapeake." On Dec. 13, 1812, she blockaded the "Bonne Citoyenne" at San Salvador. On Feb. 24, 1813, she fell in with two British warships, the "Espingle" and "Peacock," and captured the latter vessel.

Hornpipe, the name of an old wind instrument of the shawm or waits character receiving its name from the fact that the bell or open end was sometimes made of horn. Also a dance so called from the instrument to which it was danced.

Horn Silver, native chloride of silver, so called because when fused it assumes a horny appearance.

Horology, that branch of science which treats of the principles and construction of machines for measuring and indicating portions of time. Undoubtedly the motions of the heavenly bodies form the best standard for measuring time included within lengthened periods; but for the computation of such short divisions as hours, minutes, and seconds, we must call to our aid certain mathematically adjusted machines, the knowledge of whose construction is regulated by the science of horology. At the present day no country in the world surpasses the United States in the manufacture of clocks.

Horoscope, in astrology, an observation of the sky and the configuration of the planets at a certain moment as at the instant of a person's birth, from which the astrologer claimed to be able to foretell the future. Also a scheme or plan of the 12 houses or 12 signs of the zodiac, in which is marked the disposition of the heavens at a particular moment, and by which astrologers pretended to be able to foretell the fortunes of persons according to the position of the stars at their birth.

Horse, an ungulate or hoofed mammal. The horse proper is characterized by the tail being furnished with long hairs from its base; by the long and flowing mane; by the possession of a bare callosity on the inner surface of the hind as well as of the fore legs; and by the head and ears being smaller and the limbs longer than in the ass and other species related to the horse. The native country of the horse seems to have been Central Asia. It became early domesticated in Egypt. It is mentioned throughout the Bible. The people of Thessaly were excellent equestrians, and probably first among the Greeks who broke horses in for service in war; whence probably arose the fable that Thessaly was originally inhabited by centaurs. "Solomon had 40,000 stalls of horses for his chariots, and 12,000 horsemen," 1014 B. C. (I Kings iv: 26.) The Greeks and Romans had some covering to secure their horses' hoofs from injury. In the 9th century horses were only shod

in time of frost. Shoeing was introduced into England by William I., in 1066.

It is believed that the original breed of horses is extinct, and that the half-wild herds existing in many places have descended from animals once in captivity. Thus when the horse was first introduced by the Spaniards in 1537 at Buenos Ayres, there were no wild horses in America. But individuals escaping ran wild, and by 1580 their descendants had spread over the continent as far as the Straits of Magellan. Their favorite abode is on the Pampas, where they now exist in untold numbers. But there was found in La Plata a now extinct species of horse, and more Equidæ have been found in the New than in the Old World. The horse may have descended from a striped ancestor, stripes still sometimes remaining, especially in duns and mouse-duns. His present colors are brown, gray, or black, sometimes with roundish pale spots. His age is ascertained by examining first which teeth are developed, and then to what extent they have been worn away by use. They are best tamed by kindness. Like other domestic animals the horse has run into various breeds. The most celebrated is the Arab horse. Great attention is given in America to the breeding of horses and American horses have won races both in England and on the Continent. The fear that the horse would go out of fashion on account of bicycles and automobiles seems unfounded. A similar fear was expressed when the railway took the place of the stage-coach.

Horse Chestnut, a handsome genus of trees or shrubs, having large opposite digitate leaves, and terminal panicles of showy white, yellow, or red flowers. The seeds are large and farinaceous, and have been used as food for animals; they are bitter. Three species are found in North America, where they are popularly known under the name of buckeye.

Horse Guards, in England, the name given to the headquarters of the British army. It is situated in London, and takes its title from two mounted troopers of the "Royal Horse Guards," who are posted as sentries at the entrance. It forms a distinct establishment from that of the War Office, the latter monopolizing the financial or legislative department of military affairs under the control of the Secretary of War, while the Horse Guards has the executive charge under the orders of the commander-in-chief.

Horse Power, the measure of a steam engine's power, as originally settled by James Watt, being a lifting power equal to 33,000 pounds raised one foot high per minute. Thus an engine is said to be of 100 horse power (h. p.) when it has a lifting capacity equivalent to 3,300,000 pounds one foot high per minute. To ascertain the horse power of an engine multiply together the pressure in pounds on a square inch of the piston, the area of the piston in inches, the length of the stroke in feet, and the number of strokes per minute, divide the result by 33,000, and the quotient, less one-tenth, allowed for loss by friction, will give the horse power. Engines are frequently said to be of so many horse power nominal; the real or indicated horse power, however, often exceeds the nominal by as much as three to one.

Horseradish, a plant. It is found as an alien, or a denizen, in ditches, corners of fields, etc. It is acrid and stimulating. It is used in pharmacy in the preparation of compound spirit of horseradish. Horseradish is used in a fresh state as a condiment with meats.

Horseshoeing, the art of fitting the equine hoof with a protective rim. In olden times horses generally went unshod, as they now do in many eastern countries; but our macadamized roads and paved streets, fast paces and heavy loads, would speedily wear away the stoutest hoofs, and a rim of iron has accordingly been long in use as a protection.

Horsetail, among the Turks and other Eastern nations, the tail of a horse mounted on a lance, and used as a standard of rank and honor. The three grades of pashas are distinguished by the number of tails borne on their standards, three being allotted to the highest dignitaries or viziers, two to the governors of the more important provinces, and one to those of less important districts.

Horsford, Eben Norton, an American chemist; born in Moscow,

N. Y., July 27, 1818; received an academic education; was for some time principal of the Albany Female Academy; later studied chemistry in Germany under Baron Liebig; was Rumford Professor at Harvard College from 1847 to 1863; was one of the founders of Lawrence Scientific School; and was interested in proprietary articles. He died in Cambridge, Mass., Jan. 1, 1893.

Horsley, Samuel, an English bishop; born in 1733. Horsley was the greatest theological controversialist of his day, and is famous for his controversy with Priestley on Unitarianism. He died in 1806.

Hortense, Eugenie de Beauharnais, daughter of Josephine, the consort of Napoleon I., and of the Vicomte de Beauharnais, her first husband; born in Paris in 1783. She was married to Louis Bonaparte, the brother of Napoleon, in 1802. The match had been desired by the consul for political reasons, and it proved a most unhappy one. In 1806, Hortense became queen-consort of Holland, and about a year afterward was separated from her husband after giving birth to three sons: (1) Napoleon Charles; (2) Napoleon Louis, and (3) Louis Napoleon, the last, emperor of the French. On the divorce of her mother, Josephine, Queen Hortense joined her in her retirement of Malmaison, and after her death, in 1814, so soon followed by the fall of Napoleon, became an unprotected and calumniated wanderer, till her residence was fixed at Augsburg by the King of Bavaria. She died Oct. 5, 1837.

Horticultural Societies, societies formed for the encouragement of both the art and the science of the cultivation of garden plants. Horticultural societies have been instituted in all the principal American cities, and an earnest spirit manifested.

Horticulture, includes, in its most extensive signification, the cultivation of esculent vegetables, fruits, and ornamental plants. The practice of horticulture, especially as applied to the cultivation of ornamental plants, is as old as the oldest civilization of which anything is known. The practical objects of the cultivator of vegetable substances are:

(1) To collect useful and ornamental plants from the domains of nature, and from all quarters of the world.

(2) To adapt the soil, moisture, heat, and general culture suitable to such plants, so that they may vegetate to the full extent of their powers.

(3) By artificial means, such as blanching and other processes, to change the nature and juices of plants, whereby they are rendered more esculent.

(4) To produce new sorts or varieties of natural species by engrafting, budding, and other processes.

Horus, an Egyptian deity, whose name, "Har," means "the day," or "the sun's path," and is generally written in hieroglyphics by the sparrow hawk, which was sacred to him. Under the name of Horus were included several deities. But the principal Horus was Horus, the son of Isis (Har-si-hesi), represented as a naked child standing wearing a skull-cap, or the crown of Upper and Lower Egypt. When he reached manhood, he attacked his enemy Typhon, the god of darkness, and avenged on him the death of his father. He afterward traveled through Egypt, introducing everywhere civilization and the arts. His career greatly resembles that of the Apollo of the Greeks.

Hosack, David, an American physician; born in New York city, Aug. 31, 1769; was graduated at Princeton College, in 1789; became Professor of Surgery in the College of Physicians and Surgeons; made a special study of yellow fever; and published "System of Practical Nosology," etc. He died in New York city, Dec. 22, 1835.

Hosanna, a form of Jewish acclamatory prayer or blessing, derived originally from Ps. cxviii: 25. It was often uttered at the Feast of Tabernacles, at the Passover and some other feasts. Also the acclamation raised by "the whole multitude of the disciples" (Luke xix: 37) on our Lord's triumphal entry into Jerusalem. They seem to have intended by it to offer to Jesus a prayer that they might be saved, and to accord Him a joyous and loving welcome to Jerusalem. It is now employed as an acclamation of praise.

Hosea, the first of the 12 minor prophets as arranged in the Bible. He prophesied for a long time from Uzziah to Hezekiah, about 785–725 B. C. Hosea's warnings are mingled with tender and pathetic expostulations. His style is obscure, and it is difficult to fix the periods or the divisions of his various predictions. He shows a joyful faith in the coming Redeemer, and is several times quoted in the New Testament (Matt. ix: 13; Rom. ix: 25, 26; I Pet. ii: 10).

Hosmer, Harriet, an American sculptor; born in Watertown, Mass., Oct. 9, 1830; studied at Rome; and among her best-known works are "Beatrice Cenci"; statues of Thomas H. Benton, Queen Isabella, and the Queen of Naples; and a number of ornamental fountains.

Hosmer, James Kendall, an American librarian and author; born in Northfield, Mass., Jan. 29, 1834; was professor in Antioch College 1866–1872; the University of Missouri, Columbia, Mo., 1872; Washington University, St. Louis, Mo., 1874–1892; and became librarian of the public library of Minneapolis in 1892.

Hosmer, Mrs. Margaret (Kerr), an American novelist; born in Philadelphia, Dec. 1, 1830. Her home was in San Francisco, where she taught school, and in Philadelphia. She died in Philadelphia, Feb. 1, 1897.

Hosmer, William Henry Cuyler, an American author; born in Avon, N. Y., May 25, 1814; died in Avon, May 23, 1877.

Hospice, a little convent belonging to a religious order, occupied by a few monks, and destined to receive and entertain traveling monks; or houses of refuge and entertainment for travelers on some difficult road or pass, as the Hospice of the Great St. Bernard.

Hospital, any building for the reception and treatment of sick, injured or infirm persons. They are supported in most cases by voluntary contributions, but in special instances from the funds of the government, State or civic municipalities. Hospitals are of various kinds: medical; surgical; for the reception of incurables; for consumptives; for the deaf, dumb and blind; for the aged and infirm; for the care and treatment of the insane; emergency and field hospitals for the care of wounded in battle; etc.

Hospitals or asylums for inebriates; likewise hospitals for those addicted to the use of opium and other narcotics have lately been established throughout the United States. Fever hospitals are maintained in all communities to secure isolation in infectious diseases and hospital ships and floating hospitals are extremely valuable to promote complete isolation in cases of virulently infective disorders, such as smallpox, etc. Children's hospitals are often provided with swimming tanks, indoor and outdoor playing, large ball and tennis grounds and in fact any and everything to promote healthy exercise and pastime for the inmates.

Military and naval hospitals, establishments for the care of sick and wounded soldiers and seamen, exist in all civilized nations. They are either temporary or permanent and if the former located in the immediate vicinity of the scene of operation.

Hospital ships are ships fitted out as hospitals in all expeditions beyond the sea. They serve either as stationary hospitals, or if the sick accumulate, sail home to the nearest station.

Hospitallers, or **Order of St. John of Jerusalem,** a military order originated in a monastery, chapel, and hospital, founded at Jerusalem by some merchants of Amalphi, in 1048. The Hospitallers greatly distinguished themselves in the crusades, especially at Jerusalem in 1152, and at Acre in 1191. In 1321 they defeated the Turks in a great naval battle, and in 1341 took Smyrna. They took Alexandria in 1365, and in 1480 compelled Mohammed II. to retreat from Rhodes, which he had besieged with 100,000 men and 160 ships. In 1484 the possessions of the dissolved orders of the Holy Sepulcher and of St. Lazarus were bestowed upon the Hospitallers. In 1522 they were compelled to quit Rhodes by Soliman II., who besieged their garrison of 600 knights and 4,500 soldiers with a force of 140.000 men and 400 vessels, and in 1530 they were allowed to settle in Malta.

Host, the consecrated bread or wafer used by the Roman Catholic Church in her celebration of the eucharist. It is unleavened thin, flat,

and of circular form, and has certain mystic signs impressed on its surface. The host is supposed after being blessed to be no longer bread and wine, but to be transformed into the real body and blood of Christ.

Hostage, a person given in pledge or security for the performance of certain conditions, or for the safety of others.

Hostilius, Tullus, the third of the legendary kings of Rome; succeeded Numa Pompilius in 670 B. C.

Hot Blast, a stream of air forced through a furnace and heated to 500° or 600°. The hot blast effects a saving of heat, and accomplishes the reduction of the most refractory ores in less time and with a less expenditure of fuel than the cold blast.

Hotchkiss, Benjamin Berkeley, an American inventor; born in Watertown, Conn., Oct. 1, 1826; was in early life a machinist and turned his attention to the invention of deadly weapons, most notable of which is the Hotchkiss gun. He died in Paris, Feb. 14, 1885.

Hotel, a superior house of public entertainment for travelers or temporary sojourners; an inn.

Hot Springs, a city and county-seat of Garland co., Ark.; on Hot Springs creek, 55 miles S. W. of Little Rock. The name was acquired from the presence in and near the town of thermal springs numbering over 70, that flow from the side of a hill and contain valuable medicinal qualities. These springs constitute a much frequented resort for invalids, the temperature of the water often reaching 150° F.

Hottentots, the people who were in possession of the greater part of what is now Cape Colony when it was first visited and colonized by Europeans. They are now semi-civilized, and copy the habits, customs, dress, and vices of the European colonists. In general they are of medium height, not very robust in build, and have small hands and feet. Their skin is a pale brown color; their hair woolly, growing in curly knots; their cheek-bones very prominent; and their chin pointed.

Houdon, Jean Antoine, a French sculptor; born in Versailles, March 20, 1740. After studying in Italy, he returned to Paris, and executed the busts of Voltaire, Rousseau, Moliere, Franklin, Buffon, Catherine II., etc. He became, in 1778, member and professor of the Academy of Fine Arts. He was invited to the United States and carved the statue of Washington now at the Virginia State capitol in Richmond, which is considered the most authentic likeness of "the father of our country." Houdon died in Paris, July 15, 1828.

Houghton, George Washington Wright, an American author; born in Cambridge, Mass., Aug. 12, 1850; died in 1891.

Houghton, Henry Oscar, an American publisher; born in Sutton, Vt., April 30, 1823. He died in North Andover, Mass., Aug. 25, 1895.

Houghton, Richard Monckton Milnes, Lord, an English statesman; poet and prose writer; born in Fryston Hall, Yorkshire, June 19, 1809. His prose is remarkable for the purity of its Saxon style. He died in Vichy, France, Aug. 11, 1885.

Hound, a name applied to dogs used in hunting. The true hound, such as the bloodhound, the foxhound, and the staghound, hunt only by scent. In this division may also be included the bassethound (a short-legged dog used in unearthing foxes and badgers), the beagle, and the harrier. The greyhound and the deerhound run by sight alone, and are not hounds in the correct acceptance of the term.

Hour, the 24th part of a natural day; the space of 60 minutes. The early Egyptians divided the day and night each into 12 hours, a custom adopted by Jews or Greeks probably from the Babylonians. The day is said to have been first divided into hours from 293 B. C.

Hour Glass, a glass having two bulbs and a connecting opening through which the sand in one bulb runs into the other. The amount of sand and size of the opening are such that a given amount of time is consumed in the passage. Glasses of this description are yet used for marking small periods of time.

House, Edward Howard, an American journalist; born in Boston, Mass., Sept. 5, 1836; became a musical

and dramatic critic in Boston and New York; afterward Professor of English Language and Literature in the University of Tokio, Japan (1871–1873), acting as correspondent of the New York "Herald." In 1900 he was appointed director of the Imperial Court Orchestra at Tokio, Japan. He died Dec. 18, 1901.

House Boat, a species of summer residence now very popular. It consists of a flat-bottomed scow or float, on which is built a superstructure of several rooms, with balconies, awnings, etc. Some of the interiors are luxuriously furnished. During the pleasant season the house boat is moved from place to place on inland waters as fancy may dictate. House boats are growing rapidly in favor in the United States.

Household Gods, among the Romans, deities known as the Lares and Penates, and presiding over the fortunes of the house or family.

Housemaid's Knee, an acute inflammation of the bursa or sac between the kneepan and the skin, so called because it is common among housemaids from their kneeling on hard damp floors.

House of Correction, a prison for idle and disorderly persons, and certain classes of criminals, such as prisoners convicted of felony or misdemeanor or vagrancy, or committed on charge of such.

Houssa, or **Haussa,** a region of Africa, in Central Sudan. This country, though yet little known, is represented as extremely fertile, and skillfully cultivated. It is under the rule of the Fellatahs, who have subjected the native inhabitants, the Haussana or Haussas, a race intermediate between the negroes and the Berbers, but generally ranked with the latter. They are intelligent and lively, expert weavers as well as agriculturists, and well acquainted with tanning and working in iron. They are Mohammedans. There are two large towns in Houssa — Sokota and Kashua.

Houston, Samuel, an American statesman and general; born in Rockbridge co., Va., March 2, 1793; was of Scotch-Irish descent. In 1818 he began the study of law; in 1823 and 1825 was elected to Congress; and in 1827 governor of Tennessee. On removing to Texas in 1832 he was made a general of Texas troops. In 1836 he defeated the Mexicans at San Jacinto, which resulted in the independence of Texas, and he was elected President of the new republic. In 1845 Texas entered the Union, and Houston was chosen United States senator. He was elected governor of Texas in 1859; and was deposed for adherence to the Union in 1861. In a remarkable speech at the opening of the war he described the development and result of the conflict. He died in Huntsville, Tex., July 25, 1863.

Hovenden, Thomas, an American painter; born in Dummanway, Ireland, Dec. 28, 1840; studied art in Cork, New York and Paris, becoming an associate of the National Academy in 1881 and a national academician the following year. He was killed by a railroad train near Norristown, Pa., while attempting to save a little girl, Aug. 14, 1895.

Hovey, Richard, an American poet; born in Illinois, in 1864; died in 1900.

Howard, Bronson, an American playwright; born in Detroit, Mich., Oct. 7, 1842. He was connected with several newspapers in New York city, 1867–1872.

Howard, Guy, an American military officer; born in Augusta, Me., Dec. 16, 1855, son of Gen. Oliver O. Howard; joined the United States army in 1876 as a 2d lieutenant; was promoted captain Jan. 7, 1893; chief quartermaster, with rank of lieutenant-colonel, Aug. 11, 1898; was assigned to duty in Manila under General Lawton; and had charge of the transportation for the advance movement of that general. On Oct. 21, 1899, while on the gunboat "Oceania," towing two cascoes, he was attacked by Filipino insurgents, and fatally shot. His last words were "Whatever happens, keep the launch going."

Howard, John, an English philanthropist; born in 1726. His father, a wealthy London tradesman, died when his son was about 19 years of age, and left him an independent fortune. In 1773 he resolved to devote his time to the investigation of the means of correcting the existing

abuses in the management of prisons. With this view he visited most of the English county jails and houses of correction, and in March, 1774, he laid the result of his inquiries before the House of Commons, for which he received a vote of thanks. In 1789 he published an "Account of the Principal Lazarettos in Europe." In the same year he made a final journey through Germany and Russia, when prisons and hospitals were everywhere thrown open for his inspection as a friendly monitor and public benefactor. He died of fever in Cherson in South Russia, in 1790.

Howard, Oliver Otis, an American military officer; born in Leeds, Me., Nov. 8, 1830; was graduated at Bowdoin College in 1850, and at the United States Military Academy in 1854; served in the Seminole War; was instructor in mathematics at West Point, 1857–1861; entered the Civil War as colonel of the 3d Maine Regiment; commanded a brigade at Bull Run, July 21, 1861; became Major-General of volunteers, Nov. 29, 1862; Commander of the Department of Tennessee in 1864; commissioner of Freedman's Bureau, 1865–1874; peace commissioner to the Indians of Arizona and New Mexico, 1872; Brigadier-General in 1864; Major-General, U. S. A., 1886, and was retired Nov. 8, 1894. He lectured and wrote: "Life of Zachary Taylor"; "Isabella of Castile"; etc. He was personal military adviser of President McKinley in the Spanish-American war (1898).

Howard University, a coeducational non-sectarian institution in Washington, D. C.; founded in 1867.

Howarth, Mrs. Ellen Clementine (Doran), an American poet; born in Cooperstown, N. Y., May 20, 1827. Her poems have been edited by Richard Watson Gilder (1868). She died in Trenton, N. J., Dec. 23, 1899.

Howe, Edgar Watson, an American editor; born in Treaty, Ind., May 3, 1854. He wrote: "The Story of a Country Town," which attracted considerable attention.

Howe, Elias, an American inventor; born in Spencer, Mass., July 9, 1819. He constructed a sewing machine in 1846. He died in Brooklyn, N. Y., Oct. 3, 1867.

Howe, John Ireland, an American inventor; born in Ridgefield, Conn., July 20, 1793; was at first a physician, but in 1830 invented a pin-making machine. This he perfected later and revolutionized the pin manufacture with it. He died in Birmingham, Conn., Sept. 10, 1876.

Howe, Julia Ward, an American author; born in New York city, May 27, 1819. A philanthropist, interested especially in woman's suffrage, she was the wife of Dr. Samuel G. Howe, the philanthropist, and with him edited the anti-slavery journal, the Boston "Commonwealth." She is best known as the author of the "Battle Hymn of the Republic" (1861), written during a visit to the camps near Washington. Among her works, besides several volumes of verse, are: "The World's Own" (1857), a drama; "Life of Margaret Fuller." In 1903 she is still active, and takes an influential interest in public affairs.

Howe, Richard, an English naval officer; born in 1725. In 1776, with the rank of rear-admiral, he sailed for North America as joint commissioner with his brother William for restoring peace with the colonies. He died Aug. 5, 1799.

Howe, Robert, an American soldier; born in Brunswick co., N. C., in 1732; bore a prominent part in his State in the controversy with Great Britain, and on the outbreak of the Revolutionary War received a command, rising to the rank of Major-General; was later repulsed by the British and forced to evacuate Savannah. He died in Brunswick co., N. C., Nov. 12, 1785.

Howe, Samuel Gridley, an American philanthropist; born in Boston, Nov. 10, 1801. He was graduated at Brown University in 1821, and at the Harvard Medical School in 1824. In 1831 he went to Paris to study the methods of educating the blind, and, on his return to Boston he established a school for the blind, his most famous pupil being Laura Bridgman. In 1851–1853, assisted by his wife, he edited the anti-slavery "Commonwealth." He died in Boston, Mass., Jan. 9, 1876.

Howe, Timothy Otis, an American statesman; born in Livermore, Me., Feb. 24, 1816; received a com-

mon school education and became a lawyer. Settling in Wisconsin he entered politics, and in 1861 was chosen United States Senator, serving till 1879. He declined a Supreme Court judgeship on the death of Salmon P. Chase, but in 1881 he accepted the postmaster-generalship in President Arthur's cabinet. He died in Kenosha, Wis., March 25, 1883.

Howe, Sir William, an English general; born Aug. 10, 1729. He was a brother of Admiral Richard Howe and successor of General Gage in the command of the British forces in America. His first exploit was the battle of Bunker Hill (1775), in which he lost one-third of his men present in the action. In August, 1776, he gained the battle of Long Island and took New York city. He obtained an advantage over the Americans at Brandywine in September, 1777, in consequence of which Philadelphia was occupied by his army. At his own request, he was recalled in 1778, and was succeeded by Sir Henry Clinton. He died July 12, 1814.

Howells, William Dean, an American author; born in Martins Ferry, O., March 1, 1837. He learned the printer's trade with his father; was afterward assistant editor on the "Ohio State Journal"; published a life of Abraham Lincoln. From 1861 to 1865 he resided in Venice as United States consul, occupying his leisure in mastering Italian and French. Soon after his return appeared a series of papers under the title "Venetian Life" (1866; new ed. 1891), followed next year by a similar volume, "Italian Journeys." After his return to the United States he was called to the editorial staff of the New York "Tribune," and also became a regular contributor to the "Nation." He was assistant editor of the "Atlantic Monthly" during the period 1866–1872, and editor-in-chief from 1872 till his resignation in 1881. In 1886–1892 he conducted the critical department of "Harper's Monthly" called "The Editor's Study," and he is still writing successful books.

Howison, Henry Lycurgus, an American naval officer; born in Washington, Oct. 10, 1837; was graduated at the United States Naval Academy in 1858; appointed acting midshipman from Indiana, Sept. 26, 1854; promoted through various grades to lieutenant-commander, March 3, 1865; commodore, Aug. 19, 1897; rear-admiral, Sept. 30, 1898. In the Civil War he was present at the battle of Port Royal, engagements with rams off Charleston, 1862, engagements of Forts Moultrie, Sumter and Wagner, battle of Mobile Bay, etc.; was retired Oct. 10, 1899. In September, 1901, he was appointed a member of the Schley court of inquiry, and, on being challenged, was relieved from service.

Howison, Robert Reid, an American historian; born in Fredericksburg, Va., June 22, 1820. He became at first a lawyer, then a Presbyterian clergyman, and (1894) Professor of American History in the College of Fredericksburg.

Howitzer, a cannon, differing from ordinary guns in being shorter and lighter in proportion to its bore, and used for throwing shells or case-shot only, with comparatively small charges.

Howling Monkey. The animals are clumsy in make, heavy in their movement, and hang on trees by their long prehensile tails. They inhabit the warmer parts of the New World, to a certain extent corresponding to the baboons in the Old. They are the largest monkeys in South and Central America.

Howorth, Henry Hoyle, Sir, an English author; born in Lisbon, Portugal, July 1, 1842. In addition to over 70 scientific memoirs, contributions to periodicals, etc., he has published: "History of the Mongols," a large work marked by profundity of research, and "The Mammoth and the Flood," which discusses the problems arising out of the destruction of the so-called palæolithic man.

Hoxie, Vinnie Ream, an American sculptor; born in Madison, Wis., Sept. 23, 1846. She executed busts of Grant, Sherman and others and a statue of Lincoln for the National Capitol.

Hoyle, Edmond, an English writer on games; born in 1672. He is said to have been educated for the bar. Little is known about his life, except that he lived for some time in London, writing on games and giving lessons

in whist, which he invented. He died in London, England, Aug. 29, 1769.

Hoyt, Henry Martyn, an American lawyer and soldier; born in Kingston, Pa., June 8, 1830; was graduated at Williams College and became a lawyer in 1853. During the Civil War he attained the brevet rank of Brigadier-General; returned to his law practice, was made a judge, and 1878–1883 was governor of Pennsylvania. He died in Wilkesbarre, Pa., Dec. 1, 1892.

Hoyt, John Wesley, an American educator; born near Worthington, O., Oct. 13, 1831; was graduated at Ohio Wesleyan University in 1849, and later received degrees in medicine and law. He had charge of educational exhibits in leading international expositions, and was made chairman of the National Committee to Promote the Establishment of the University of the United States.

Huamanga, or **Guamanga,** a city of Peru, capital of a province of its own name and of the department of Ayacucho. Pop. 142,205.

Huanaca, or **Guanaco,** a species of the same genus with the llama, vicuna, and alpaca, of which some naturalists suppose it to be the wild original. It is found not only on the Andes, but throughout great part of Patagonia. It is of a reddish-brown color, the ears and hind legs gray.

Hubbard, Elbert, an American novelist; born in Bloomington, Ill., in 1859. His home is in East Aurora, N. Y., where he was proprietor of the famous Roycroft shop, devoted to making de luxe editions of the classics. He is editor of the "Philistine" and wrote "No Enemy but Himself"; "Little Journeys to the Homes of Famous Women"; etc.

Hubbard, Lucius Frederick, an American soldier and physicist; born in Troy, N. Y., Jan. 26, 1836; settled in Minnesota and entered public life; enlisted as a private on the outbreak of the Civil War; and was mustered out in 1865 with the rank of Brigadier-General for conspicuous gallantry. In 1881 he was elected governor of Minnesota and was reëlected, serving till 1887. In the war with Spain he was a Brigadier-General of volunteers.

Hubbard, William, an American clergyman and author; born in Tendring, Essex, England, in 1621. He emigrated to Massachusetts in 1635, was graduated at Harvard College in 1642, and was minister of Ipswich for over 40 years. In 1688 he was temporary president of Harvard College. He has written extensively on historical subjects. He died in Ipswich, Mass., Sept. 14, 1704.

Hubbell, Mrs. Martha (Stone), an American novelist and writer for the young; born in Oxford, Conn., in 1814. She died in North Stonington, Conn., in 1856.

Hubner, Charles William, an American journalist and miscellaneous writer; born in Baltimore, Md., Jan. 16, 1835. He spent several years in Germany, and served in the Confederate army in the Civil War.

Hub of the Universe, a humorous appellation popularly applied to the city of Boston, Mass. It originated with Holmes.

Huc, Evariste Regis, a French missionary; born in Toulouse, France, Aug. 1, 1813. His experiences are recounted in "Souvenirs of a Journey to Tartary, Tibet, and China"; "Christianity in China, Tartary, etc.," all of which were translated into English. He died in Paris, France, March 26, 1860.

Hudde, Andreas, a Dutch-American colonial official; born in Holland about 1599; came to New York (then New Netherlands) in 1629, and for 34 years was active in the public affairs of the colony. He died in Delaware, Nov. 4, 1663.

Huddy, Joshua, a brave partisan officer of the Revolutionary War; hung by the Tories, April 12, 1782. His death caused the greatest indignation throughout the country, and the British authorities disclaimed and reprobated the act. In retaliation, the Continental Congress, by resolution, ordered General Washington to select for execution a British officer of equal rank (captain) from among the prisoners. The lot fell on Captain Asgill, son of Sir Charles Asgill, of London. Congress afterward spared Asgill's life through the urgent intercession of the French Minister, Count de Vergennes, and the States-General of Holland.

Madame de Sevigne made the story of Captain Asgill the subject of a tragic drama.

Hudson, Frederick, an American journalist; born in Quincy, Mass., in 1819. He was connected with the New York "Herald" for nearly 30 years, retiring in 1866. He wrote: "History of Journalism in the United States" (1873). He died in Concord, Mass., Oct. 21, 1875.

Hudson, Henry, an English navigator; born in England. He entered the service of Holland. After making three voyages to find a N. E. or N. W. passage to China, in the second of which he discovered the Hudson river, he set sail a fourth time, April 17, 1610, in a bark named the "Discovery," and proceeding W., reached in lat. 60° N. the strait bearing his name. Through this he advanced along the coast of Labrador, till it issued into the vast bay which is also called after him. Here, with his son and seven infirm sailors, he was turned adrift by a mutinous crew, and was no more heard of.

Hudson, Henry Norman, an American Shakespearean scholar; born in Cornwall, Vt., Jan. 28, 1814. He served as chaplain in the Civil War, and was Professor of Shakespeare at Boston University, and was for a time editor of the "Churchman." He died in Cambridge, Mass., Jan. 16, 1886.

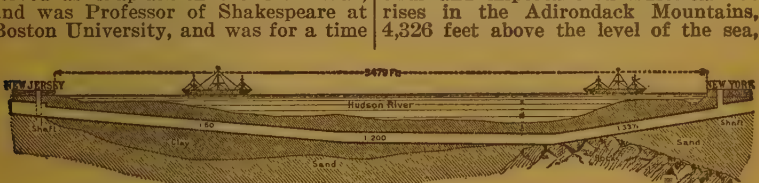
Hudson, Mary (Clemmer) (Ames), an American journalist and miscellaneous writer; born in Utica, N. Y., in 1839. She was at one time Washington correspondent of the New York "Independent." She died in Washington, D. C., in 1884.

Hudson Bay, an inland sea of British North America. It covers an area of about 510,000 square miles, the S. part of which embracing about one-fourth of the bay, is called James Bay. Hudson Bay contains numerous islands, reefs, and sand-banks; and its shores are for the most part high, bold, and rocky; and though free from ice, is only navigable during a few months in the year. It was discovered by Henry Hudson.

Hudson Bay Company, an English company, established for carrying on the fur-trade, to which Charles II. in 1670 granted a charter, empowering it to trade exclusively with the aborigines in and about Hudson Bay. In the winter of 1783, a new company, calling itself the Northwest Fur Company, was established at Montreal, and actively opposed the Hudson Bay Company. The companies after considerable strife united under the name of the Hudson Bay Fur Company, which at the present time engrosses most of the fur-trade of British America.

Hudson Bay Territory, under this name is comprised a large proportion of N. W. America, extending from lat. 49° to 70° N., and from Cape Charles, Labrador, to the mouth of the Mackenzie river; area, between 2,000,000 and 3,000,000 square miles.

Hudson River, a river in New York State, and one of the most beautiful and important in America. It rises in the Adirondack Mountains, 4,326 feet above the level of the sea,



HUDSON RIVER.—LINE OF TUNNEL BETWEEN NEW YORK AND NEW JERSEY.

taking a S. course, runs nearly in a straight line to its mouth, at New York city. It is tidal up to Troy, 151 miles from its mouth, and steamboats ply daily between New York and Albany. Below Newburg, 60 miles from New York, the river enters the highlands, which rise abruptly from the water to the height of 1,600 feet. The Hudson has valuable shad and sturgeon fisheries. The river, named from the English navigator who explored it in 1609, is connected by canals with Lakes Erie and Champlain, and with the Delaware river. In 1894 a sus-

pension bridge connecting New York and Jersey City was sanctioned, and the plans approved in 1895. For several years a tunnel to connect the New York and the New Jersey shores has been in process of construction. Robert Fulton's first successful experiment in steamboat navigation was made on this river in 1807.

Hufeland, Christoph, Wilhelm, a German physician; born in Langensalza, Prussia, Aug. 12, 1762; pursued his profession at Weimar, and became, in 1793, professor in the university of Jena. In 1801 he was appointed physician to the King of Prussia, in 1809 Professor of Medicine in the University of Berlin, and finally director of the academy of military medicine and surgery in 1819. His celebrated work "The Art of Prolonging Life," was published in 1799. He died in Berlin, Aug. 25, 1836.

Huggins, Sir William, an English spectroscopist; born in London, England, Feb. 7, 1824. Having in 1855 built for his own private use an observatory at Upper Tulse Hill, near London, he began what proved to be the principal work of his lifetime — the study of the physical constitution of stars, planets, comets, and nebulæ. By researches on the sun's spectra and the spectra of certain comets, he ascertained that the luminous properties of the former are not the same as the luminous properties of the latter. He also determined the amount of heat that reaches the earth from some of the fixed stars. He was president of the Royal Astronomical Society 1876–1878; president of the British Association for the Advancement of Science 1891. In 1874 he became corresponding member of the Paris Academy of Sciences, and three years later corresponding member of the Royal Society of Gottingen.

Hughes, Thomas, an English judge, author, and philanthropist; born in Uffington, Berkshire, where his grandfather was vicar, Oct. 20, 1823. He represented Lambeth in the House of Commons from 1865 to 1868 as an advanced Liberal, and during the six years 1868–1874 he sat for Frome. He was deeply interested in the well-being of the working classes, and devoted much of his time to the support of the coöperative movement and other socialist schemes of a similar kind.

As an author, Thomas Hughes is doubtless best known by his first work, "Tom Brown's School Days, by an Old Boy," published in 1856, which has gone through many editions and been translated into several languages. He died in Brighton, March 22, 1896.

Hugo, Vicomte Victor Marie, a distinguished French poet, politician, and man of letters; born in Besancon, France, Feb. 26, 1802. His father was a colonel in the French army. He received a classical education in a religious house, and, in 1822, brought out the first volume of his "Odes and Ballads." He reflected bitterly in subsequent works on the classical style of French dramatic literature. Shortly after the revolution of July, 1830, his "Marion de Lorme," which had been suppressed by the censorship under the Restoration, was performed with success. "The King Amuses Himself" was also performed at the Theatre Francais in January, 1832, but was indicted by the government the day after.

Hugo, who published afterward a number of dramatic pieces of various merit, was, after much opposition, admitted into the Academy in 1841, and was created a peer of France by Louis Philippe. In 1849 he was chosen president of the Peace Congress of which he had been a leading member. On the coup d'etat of Dec. 2, 1851, Hugo, then a member of the legislative assembly was among those deputies who vainly attempted to assert the rights of the assembly and to propose the constitution. His conduct led to his proscription. He took refuge in the island of Jersey, and subsequently in that of Guernsey, having steadfastly refused to avail himself of the general amnesties issued in 1859 and in 1869. He wrote much after he had left France. His very trenchant satire, "Napoleon the Little," appeared at Brussels in 1852, and was rigorously suppressed in France, into which country it had been smuggled. On the fall of the empire in 1870 he returned to France, was elected to the National Assembly, but soon resigned and repaired to Brussels, whence he was expelled by the government on account of the violence of his political writ-

ings and his sympathy with the Communists. Returning to Paris, he was (1876) elected a senator for six years. He died in Paris, May 22, 1885, and was buried in the Pantheon.

Huguenot, a nickname formerly applied by the Roman Catholics to the Protestants of France, who were nearly all Calvinists, and who converted the appellation into one of honor instead of reproach. In 1561, a year after the accession of Charles IX., the Huguenots were prohibited from preaching. They then took up arms to achieve religious liberty. With an occasional hollow truce, or an interval of peace as hollow the struggle went on for the next century and a quarter. Its two most notable incidents were the Massacre of St. Bartholomew and the Revocation of the Edict of Nantes. The name Huguenot has not been permanent. Those so called were afterward denominated Reformed or simply Protestant.

Hull, Edward, an Irish geologist; born in Antrim, Ireland, May 21, 1829. As a member of the Geological Survey of Great Britain for 20 years, he geologically mapped a large portion of the central counties of England. In 1869 he became Professor of Geology at the Royal College of Science, Dublin; and in 1883 commanded an expedition under the auspices of the Palestine Exploration Society to Arabia, Petræa and Palestine. He has written much about the British coal supply.

Hull, Isaac, an American naval officer; born in Derby, Conn., March 9, 1775. In July, 1812, he commanded the frigate "Constitution," which was chased by a British squadron for three days, but escaped by skillful sailing. While cruising in the Gulf of St. Lawrence he met the British frigate "Guerriere," which, after a bloody fight of half an hour, surrendered, Aug. 19, 1812. The "Guerriere" was so injured in the battle that she soon sunk. The British ship lost 100 men; the "Constitution" had 14 men killed and wounded, and within an hour or so was ready for another fight. This was the first naval battle of the War of 1812, and Congress gave Captain Hull a gold medal for his services. He died in Philadelphia, Pa., Feb. 3, 1843.

Hull, William, an American military officer; born in Derby, Conn., June 24, 1753. He was governor of Michigan Territory 1805–1814. At the commencement of the War of 1812 he commanded the Northwestern army, and in 1812 surrendered with a force of 2,000 men to General Brock. In 1814 he was tried by court-martial on several charges, and condemned to be shot, but in consideration of his services, the sentence was not carried into execution. The verdict of history is that he did his duty to the best of his ability. He died in Newton, Mass., Nov. 29, 1825.

Hullah, John Pyke, an English musician; born in Worcester, England, June 27, 1812. He was for several years Professor of Vocal Music in King's College, and taught at other schools and colleges in the metropolis. Hullah, who followed a modification of Wilhelm's system, had little sympathy with recent developments of modern music, and opposed the "Tonic Sol-fa" method. He died in London, England, Feb. 21, 1884.

Humanitarians, a name assigned to anti-Trinitarians, who regard Christ as a mere man, and refuse to ascribe to Him any supernatural character, whether of origin or of nature.

Humanities, a term for humane or polite literature, including the study of the ancient classics, in opposition to philosophy and science.

Humbert I., Italian **Umberto,** King of Italy; born in Turin, March 14, 1844. He was the eldest son of Victor Emmanuel. In the war of 1866, in which Italy joined Prussia against Austria, he took the field in command of a division, and distinguished himself by his bravery in the disastrous battle of Custozza. In 1868 he married his cousin, Margherita, daughter of Duke Ferdinand of Genoa. He succeeded his father Jan. 9, 1878, and was assassinated in Monza, near Milan, July 29, 1900.

Humboldt, Alexander von, a distinguished German scientist; born in Berlin, Sept. 14, 1769. From childhood he delighted in zoölogical, physical, and geographical investigations. At 28, on the death of his mother, he began the series of voyages memo-

rable in the annals of science. "Voyages to the Equinoctial Regions of the New Continent"; "View of the Cordilleras and of the Monuments of the Indigenous Races of America"; "Observations on Zoölogy and Comparative Anatomy"; etc., attest alike his Titanic genius and the singular charm of his literary style. He died in Berlin, May 6, 1859.

Humboldt, Wilhelm von, a German philologist, brother of Alexander; born in Potsdam, June 22, 1767. In 1789 he visited Paris to study the French Revolution, with which he sympathized; from 1802 to 1819 he was in active official life; minister to Vienna, member of the Privy Council, Secretary of State, ambassador to London, etc.; finally quitting it in disgust at the corruption he would not share. His main work in philology is "On the Kawi Language of the Javanese," but he made other valuable studies of primitive dialects. He died in Tegel, near Berlin, April 8, 1835.

Hume, David, a Scotch historian and philosopher; born in Edinburgh, Scotland, April 26 (o. s.), 1711. In 1746 he became secretary to General St. Clair, whom he accompanied to the courts of Vienna and Turin. In 1752 appeared at Edinburgh his "Inquiry Concerning the Principles of Morals," which of all his writings is considered the best. In 1754 he published the first volume of his "History of England," which he did not complete till 1761. The work acquired considerable celebrity, and the author gained largely by its popularity, for besides the profits it brought him, he obtained a pension through Lord Bute. He became under-secretary of State in 1767. He died in Edinburgh, Scotland, Aug. 25, 1776.

Humerus, in human anatomy, the long bone of the arm between the shoulder and fore-arm.

Humming Bird, one of a family of birds which may be termed the gems of animated nature; peculiar to America, and almost exclusively tropical. They are distinguished by their long and slender bill, and attenuated and retractile tongue which is divided into two filaments from the middle to the tip, and sometimes set with re-curved spines. They feed on honey, though they are also insectivorous. Their flight is extremely rapid, and while feeding they remain poised in the air by means of the horizontal motion of their wings, which produces a humming noise, whence their common name is derived. Only one species is found in the N. E. part of the United States, belonging to those having straight bills.

The humming bird is very irascible, two males scarcely ever meeting without a contest ensuing. They will also attack birds of a much larger size, as wrens or king birds, and sometimes have contests for a favorite flower with the bumblebee. From the beauty of these birds many attempts have been made to domesticate them, but unsuccessfully, though they have been kept from three to four months with attention.

Humphreys, Alexander C., an American engineer; born in Edinburgh, Scotland, in 1851; entered business in New York in 1867; and while employed as superintendent of the Bayonne and Greenville Gas Company, took a full course at Stevens Institute of Technology and was graduated in 1881. He then became chief engineer of the Pintsch Gas Company; three years later was appointed general superintendent of the United Gas Improvement Company. This position he held till 1895 when he formed the firm of Humphreys and Glasgow, gas engineers, whose business extended all over the world. In 1902 he was also president of the Hubbard-Rodman-Ely Safe Company, and of the Buffalo Gas Company. Mr. Humphreys was elected president of Stevens Institute of Technology to succeed the late Dr. Henry Morton in June, 1902.

Hundred, a division of a county, now obsolete in the United States, supposed to be named from originally containing 100 families or freemen. A long hundred, a great hundred, the sum or number of 120.

Hundred Days, the period between March 20, 1815, the day on which Napoleon I. entered Paris after his escape from Elba, and June 29 of the same year, when he left it finally.

Hundred-weight. In the United States it is 100 pounds avoirdupois. It is subdivided into four quarters. It is usually written cwt. Twenty hundred-weights make one ton.

Hungerford, Mrs. Margaret (Hamilton Argles) "The Duchess"), an Irish novelist; born 18—. The daughter of an Anglican clergyman, she was left a widow with a young family to support, whereupon she took to literature. She is author of a large number of works of fiction. She died in Bandon, Cork co., Jan. 24, 1897.

Hungry Hill, a mountain of Ireland, in Cork, 16 miles W. N. W. of Bantry. On the top of the mountain is a lake, whence the waters descend in a series of cascades, one falling nearly 700 feet. It is considered one of the curiosities of Ireland, and is a great resort of tourists.

Hunnewell, James Frothingham, an American bibliographer; born in Charlestown, Mass., July 3, 1832.

Huns, the name given to several nomadic Scythian tribes, which devastated the Roman empire in the 5th century. They inhabited the plains of Tartary, near the boundaries of China, many centuries before the Christian era; and they were known to the Chinese by the name of Hiongun, and also Han. It was in order to put a stop to the continual aggressions of the Huns that the great wall of China was built; and after this the Huns split up into two separate nations, named respectively the Northern and the Southern Huns. The first-mentioned of these gradually went W. to the Volga, where they encountered the Alanni, whom they defeated. Here the Huns remained for about two centuries; but, under the Emperor Valens, they crossed the Bosphorus; afterward invading Rome, under their leader Attila. After the death of Attila the Huns broke up into separate tribes, and were driven back by the Goths beyond the Tanais. The Hungarians of the present day are the descendants of Huns, who once more immigrated into Europe.

Hunt, Freeman, an American biographer; born in Quincy, Mass., March 21, 1804. A publisher in New York, he was the founder of "Hunt's Merchants' Magazine." He died in Brooklyn, N. Y., March 2, 1858.

Hunt, James Henry Leigh, an English poet and essayist; born in Southgate, Middlesex, England, Oct. 19, 1784. He was the personal friend of Byron, Shelley, Hazlitt, Lamb, and Coleridge. He was sentenced, with his brother, to a fine of $2,500 and two years' imprisonment for an alleged libel against the prince regent. Offers to remit these penalties on a promise to refrain from similar expressions for the future were firmly rejected; and on the expiration of their sentence they continued to write as before in the "Examiner." The "Story of Rimini" is his longest and perhaps his best known poem. He died in Putney, England, Aug. 28, 1859.

Hunt, Richard Morris, an American architect; born in Brattleboro, Vt., Oct. 31, 1828; finished the study of his profession in Paris; returned to the United States and was employed in the extension of the National Capitol. Among the structures designed by him are the Presbyterian Hospital, Lenox Library, the William K. Vanderbilt mansion, the "Tribune" Building, etc., in New York city; the Yorktown Monument, Va.; the pedestal of the "Statue of Liberty," on Bedloe's Island, New York harbor; etc. He died in Newport, R. I., July 31, 1895.

Hunt, Thomas Sterry, an American chemist and geologist; born in Norwich, Conn., Sept. 5, 1826. He was (1872–1878) Professor of Geology in the Massachusetts Institute of Technology. In organic chemistry his name is identified wth a system essentially his own, and his researches into the composition of rocks were of great importance. In 1859 he invented the green ink with which greenbacks are printed. He was made an officer of the Legion of Honor in 1867, and received numerous other distinctions, including a fellowship of the Royal Society (1859), and the degree of LL. D. from Cambridge (1881). He published over 200 papers and several larger works on chemistry and mineralogy. He died in New York city, Feb. 12, 1892.

Hunt, Ward, an American jurist; born in Utica, N. Y., June 14, 1810; was educated at Hamilton and Union Colleges, graduating in 1828. From 1865 to 1873 he was judge of the Court of Appeals of the State of New York, when he was appointed a justice of the Supreme Court of the

United States. Retired Jan. 27, 1882, and died March 24, 1886.

Hunt, William Chamberlin, an American statistician; born in Charlestown, Mass., Dec. 20, 1856. He was statistical expert in the United States Department of Labor in 1895–1899; and became chief statistician of the department of population of the 12th United States Census in 1899.

Hunt, William Henry, an American lawyer; born in New Orleans, La., Nov. 5, 1857; was educated at Yale University; made attorney-general of the Territory of Montana in 1884. He was for a time United States agent before the Chilean Claims Commission; resigned that post in 1900 to become secretary of Porto Rico; and in 1901 succeeded Charles H. Allen as governor of that island.

Hunter, David, an American military officer; born in Washington, D. C., July 21, 1802; was graduated at the United States Military Academy in 1822. On May 17, 1861, he was appointed Brigadier-General of volunteers and a few months later Major-General. He was given command of the Department of the South in March, 1862, and recruited and organized in South Carolina the first negro regiment in the Union army. He was transferred to the Department of West Virginia in May, 1864; defeated the Confederates at Piedmont, June 5, 1864; was chairman of the commission which tried the conspirators against the life of President Lincoln; brevetted Major-General, U. S. A., March 13, 1865, and was retired on account of age, July 31, 1866. Died in Washington, D. C., Feb. 2, 1886.

Hunter, Fort, a defensive work at the confluence of the Mohawk river and Schoharie creek, N. Y., where many severe conflicts took place during the Revolutionary and the French-Indian wars.

Hunter-Duvar, John, a Canadian poet; of Scotch-English birth and education; born Aug. 29, 1830. He served as lieutenant-colonel of the 3d Brigade Halifax Garrison Artillery and of Prince Co. (P. E. I.) Battery of active militia; was Dominion Inspector of Fisheries for the Province of P. E. I., 1879–1889.

Huntingdon, the birthplace of Cromwell; near London, England.

Huntington, Daniel, an American painter; born in New York city, Oct. 14, 1816. He studied at Hamilton College. In 1862–1869 he was president of the National Academy, and again in 1877–1891. Among his portraits are those of Presidents Lincoln, Grant, and Senator John Sherman.

Huntington, Frederic Dan, an American clergyman; born in Hadley, Mass., May 28, 1819. In 1855 he became Plummer Professor of Christian Morals in Harvard University. In 1860 he was ordained in the Protestant Episcopal Church, and in 1869 was consecrated Bishop of Central New York.

Huntington, Samuel, an American patriot; born in Windham, Conn., July 3, 1731. In 1774 he became assistant judge of the Superior Court, and in the following year was elected to Congress. In 1784 he was appointed chief-justice, and in 1786 governor, to which office he was annually elected till his death, Jan. 5, 1796. He was one of the signers of the Declaration of Independence.

Hunyady, Janos, a great Hungarian soldier; born in Hunyad, Transylvania, in 1387. His life may be succinctly described as one unbroken crusade against the Turks. The principal moments in his celebrated contest with the foes of Christendom are his expulsion of them from Transylvania in 1442; his brilliant campaign S. of the Danube in 1443; his defeat in the bloody battle of Varna, 1444; and that of Kossovo in 1448; but his most glorious achievement was the storming of Belgrade (1456). During the minority of Ladislaus V. he acted as governor of the kingdom (1445–1453). Hunyady left two sons, Ladislaus and Matthias — the latter of whom succeeded to the crown of Hungary. He died in Semlin, Croatia-Slavonia, Aug. 11, 1456.

Hurdygurdy, a musical instrument of ancient origin, popular among most of the European nations. It consists of a flat oblong sounding-board, on which are stretched four to six strings of catgut or sometimes wire. The strings are set in vibration by the friction of a wooden wheel charged with resin and turned by means of a handle at one end. The hurdygurdy

is only adapted to the production of melodies of the simplest kind.

Hurlburt, William Henry, an American journalist; born in Charleston, S. C., July 3, 1827. After an extensive journalistic experience in New York, he became editor-in-chief of the New York "World" (1876–1883). After 1883 he resided in Europe. He died in Italy, Sept. 4, 1895.

Hurlbut, Stephen Augustus, an American military officer and politician; born in Charleston, S. C., Nov. 29, 1815; at beginning of the Civil War he became a Brigadier-General of volunteers, in 1862; commanded a corps in the expedition to Meridian in 1864; was United States minister to the United States of Colombia, 1869–1873; Republican member of Congress from Illinois, 1873–1877; United States minister to Peru, 1881–1882; and died in Lima, Peru, March 27, 1882.

Huron, Lake, one of the five great lakes of North America, belonging to the basin of the St. Lawrence, second in size only to Lake Superior, and intermediate in position between that lake and Michigan. The total length of Lake Huron N. to S. is estimated at 280 miles, and its greatest breadth about 190 miles; area estimated, 25,000 square miles. The banks of this lake are mostly low, especially along its S. and W. sides. Few towns of consequence exist on its shores, and its navigation is rendered dangerous by sudden and violent tempests.

Huronian Rocks, the name given by Sir William Logan to a series of strata lying in the vicinity of Lake Huron.

Hurons, a once powerful tribe of American Indians, belonging to the Huron-Iroquois family. In the early part of the 17th century the Hurons numbered about 30,000 persons, living in 25 villages within a small territory near Georgian Bay. By the end of the century the tribe had been nearly destroyed by the Iroquois, famine, and disease; and in 1693 the few survivors were removed by the French to Jeune Lorette, near Quebec. Here 200 or 300 descendants still live; but very few are of pure blood, and all are Catholics, and have abandoned their own language for French.

Hurst, John Fletcher, an American Methodist clergyman and author; born near Salem, Md., Aug. 17, 1834. He studied theology in Halle and Heidelberg, Germany, and became bishop in the Methodist Episcopal Church in 1880, and chancellor of the American University in 1891. He has written many books on religious subjects, translations of theological works and histories, etc. Died May 4, 1903.

Hurter, Friedrich Emanuel, von, a Swiss theologian and historian; born in Schaffhausen, March 19, 1787. In 1846 he was selected as historiographer to the Emperor of Austria. His numerous works relate chiefly to mediæval and Church history. He died in Gratz, Styria, Aug. 27, 1865.

Husbandry, Patrons of, a combination, society, or association of farmers for the promotion of the interests of agriculture, by abolishing the restraints and burdens imposed on it by railway and other companies, and by getting rid of the systems of middlemen or agents between the producer and the consumer. The popular name of its members is Grangers. The organization seems to have declined in the last few years.

Huskisson, William, an English statesman; born in Birch, Moreton, Worcestershire, England, March 11, 1770. In 1827 he became secretary of state for the colonies, under Lord Goderich. He had now come to be a recognized authority on all questions of trade and commerce. In 1828 a misunderstanding with the Duke of Wellington, then at the head of the cabinet, led to his withdrawing, with other Tories, from the administration. He was accidentally killed at the opening of the Liverpool and Manchester Railway, Sept. 15, 1830.

Huso, the beluga or isinglass sturgeon. It inhabits the great rivers falling into the Black and Caspian Seas. The best isinglass is made from its air-bladder.

Huss, John, a famous Bohemian reformer of religion; born of humble parents in Husinetz, near Prachatitz, Bohemia, July 6, 1369. He became a priest in 1400. Huss was a realist in philosophy, and adopted the views of Wyclif, whose works he translated and whose doctrines he preached, giving great offense to the Archbishop of

Prague. Huss appeared by citation before the Council of Constance, and, though provided with a safe-conduct from the Emperor Siegmund, or Sigismund, he was adjudged a heretic, and burned alive July 6, 1415, as was his disciple Jerome of Prague, on May 30, 1416.

Hussite, a follower of John Huss.

Hutchins, Thomas, a geographer-general to the United States; born in New Jersey, about 1730. He served in the army against the Indians in Florida; was imprisoned in England in 1779, on the charge of having corresponded with Franklin, then American agent in France; and afterward joined the army of General Greene. He published several topographical and historical works. He died in Pittsburg, Pa., in 1789.

Hutchinson, Anne, an American religious enthusiast; born in Lincolnshire, England, about 1590. She married a Mr. Hutchinson, and in 1634 they emigrated to Boston, Mass. She held various theological heresies, conducted meetings, lectured, and denounced the Massachusetts clergy. Being tried for heresy and sedition, she was banished from the colony. She and her friends removed to Rhode Island, where they acquired territory from the Narragansett Indians. After the death of her husband (who shared her opinions) she removed to a new settlement in New York State, where, in 1643, she and her whole family of 15 persons were taken prisoners by the Indians, and all but one daughter barbarously murdered.

Hutchinson, Ellen Mackay (Mrs. Royal Cortissoz), an American journalist; born in New York; was long one of the editors of the New York "Tribune," and was associated with E. C. Stedman in the compilation of the "Library of American Literature." Her numerous poems were collected under the title of "Songs and Lyrics" (1881).

Hutchinson, Thomas, an American colonial governor; born in Boston, Mass., Sept. 9, 1711; was graduated at Harvard College in 1727, and early attained prominence in the colonial affairs of Massachusetts. In 1770 he was appointed governor, but became unpopular during the conflict with Great Britain over the right to tax the colonies. In 1774 he was superseded by General Gage. He died in Brompton, England, June 3, 1780. He was a man of marked ability, and could perhaps have averted the Revolution by a course more in accord with American sentiment. He was treated coldly as a refugee in England, and expressed with touching pathos his longing for his native land. Like many other Tories he had reason to regret his choice.

Hutten, Ulrich von, a German controversial satirist; born in Steckelburg, near Fulda, Prussia, April 21, 1488. Of a noble family and destined for the Church, he preferred a life of roving adventure. After many vicissitudes, including shipwreck, military service, and absolute beggary, he rose to fame by brilliant contributions to the current religious and political controversies. He died in the island of Ufenau, Lake Zurich, 1523.

Hutton, Charles, an English mathematician; born in Newcastle-upon-Tyne. He was selected to perform the necessary calculations for determining the density of the earth, and his report was published in the "Philosophical Transactions" for 1778. He died Jan. 27, 1823.

Hutton, James, a Scotch geologist and natural philosopher; born in Edinburgh, Scotland, June 3, 1726. He died in Edinburgh, Scotland March 26, 1797.

Hutton, Laurence, an American editor; born in New York, Aug. 8, 1843. Devoting his earlier years to mercantile pursuits, he at length became dramatic critic of the New York "Evening Mail"; literary editor of "Harper's Magazine" (1886–1898). He made a remarkable collection of death masks of noted people, which he presented to Princeton University.

Huttonian Theory, in geology, the theory first published by Dr. James Hutton, in 1788, in his "Theory of the Earth," and developed in 1795. He was the first to distinguish between cosmogony and geology, believing the latter to be in no way concerned with "questions as to the origin of things." His view was that the upraised land of the globe must be worn away by atmospheric influences and the debris be finally deposited in the bed of the sea, where it is consolidated under

great pressure; it is then forced upward by subterranean heat, acting with an expansive power, and thereby split and cracked, the fissures at the same time filling with molten mineral matter; and so the process goes on. Hutton was the precursor of Sir Charles Lyell, whose views were essentially the same, and who procured for them large acceptance among geologists. Professor Huxley called the Huttonian theory Uniformitarianism.

Huxley, Thomas Henry, an English biologist and essayist; born in Ealing, England, May 4, 1825. He was graduated at London University in 1845. In 1846–1850 he sailed around the world as a naval surgeon. In 1851 he was made F. R. S. by the Royal Society; he became Professor of Natural History in the School of Mines in 1854; Hunterian Professor in the Royal College of Surgeons in 1863; president of the British Geological and Ethnological Societies in 1869; secretary of the Royal Society in 1872; Lord Rector of Aberdeen University in 1872; and president of the Royal Society in 1883. He was an able advocate of Darwinian evolution, and was perhaps best known to the popular apprehension by his agnostic speculations, in expounding which he came into controversy with the defenders of Theism and Christianity. He wrote a number of scientific works. He died in Eastbourne, England, June 29, 1895.

Huygens, Christian, an eminent Dutch mathematician and astronomer; born in The Hague, April 14, 1629. In pure geometry, Huygens gave the reasons for the quadrature of the hyperbola, the ellipsis, and the circle; in mechanics, he laid down the theory of the pendulum, and its application to the clock; he discerned the synchronism of the cycloid, invented the theory of involutes and evolutes of curves, and explored the doctrine of centers of oscillation; most important of all, he announced the law of the motion of bodies revolving in circles, thereby "grazing" the law of gravitation. In astronomy, we owe to him an improvement of the telescope and the memorable discovery of Saturn's ring. In optics he laid the foundation of the theory of undulations. He died in The Hague, June 8, 1695.

Hyacinth, in botany, a genus of flowers once so extensive as to include the common wild hyacinth (hyacinth of the woods) or blue-bell, but now much more limited.

Hyacinthe, Pere, a French clergyman, the former monastic name of Charles Loyson; born in Orleans, March 10, 1827. Almost as remarkable as his eloquence was the boldness with which he denounced existing abuses in the Church. In 1869 he issued a letter in which he called for a thorough reform of the Church, and was excommunicated. Relieved from monastic vows by the Pope, he became a secular priest under the name of the Abbe Loyson. He protested vigorously against the infallibility dogma; but though he attended the "Old Catholic" Congress at Munich, and on visits to the United States and England fraternized with Protestants, he always declared his intention to remain in the Catholic Church, trying to obtain reforms, such as the liberty of marriage for the clergy. In 1872 he married an American lady. In 1873 he was chosen cure of a congregation of Liberal Catholics at Geneva, but soon left them. He has published sermons and lectures, and in 1879 established a "Gallican" congregation in Paris, which in 1884 attached itself to the Old Catholic Church in Holland.

Hyatt, Nathaniel Irving, an American musical composer; born in Lansingburg, N. Y., April 23, 1865, and was graduated at the Leipsic Conservatory. He was Professor of Piano and Theory at the Syracuse University in 1896–1900; and became head of the music department of St. Agnes School, Albany, N. Y., in 1900. He composed numerous songs, choruses, piano music, etc.

Hyatt, Alpheus, an American scientist; born in Washington, D. C., April 5, 1838. He was graduated at Lawrence Scientific School, served with distinction in the Civil War, held professorships in leading scientific institutions, and was made curator of the Boston Society of Natural History and assistant in the Museum of Comparative Anatomy in Cambridge, Mass.

Hyatt, John Wesley, an American inventor; born in Starkey, N. Y.,

Nov. 28, 1837; was educated in the common schools; became a printer and then an inventor. He perfected a composition billiard ball, a "bonsilene" compound, a water-purifying system, and a mode of dissolving pyroxylin.

Hybrid, a mongrel produced, whether in plants or animals, by the impregnation of the female of one species, genus, or race, by the male belonging to a different family. The commonest sorts of hybrid are those which arise from the interconnection of different varieties of the same species.

Hyde, or **Hide,** a measure of land, frequently mentioned in Domesday-book and in old English charters, and variously estimated as equivalent to 60, 80, and 100 acres. It was such a portion of land as might be plowed with one plow. The hyde at present is reckoned at 100 acres.

Hyde Park, a park in the West End of London, adjoining Kensington Gardens. It derived its name from having been the manor of the Hyde belonging to the Abbey of Westminster, and contains nearly 400 acres. It abounds with fine trees and pleasing scenery.

Hydra, in classical mythology, a monster which infested the Lake Lerna in Peloponnesus. It had 100 heads, and as soon as one was cut off, two grew up if the wound was not stopped by fire. It was one of the labors of Hercules to destroy this monster; this he effected with the assistance of Iolaus, who applied a red-hot iron to the wound as soon as one head was cut off. The conqueror dipped his arrows in the gall of the hydra, and all the wounds which he gave proved incurable.

In astronomy, the hydra or water-snake, one of the 15 ancient Southern constellations.

Hydrangea, a genus of shrubs or herbs containing about 32 species, natives of America and Asia. The garden hydrangea is a native of China. It is a favorite for the beauty and size of its flowers.

Hydarthrus, a white swelling. The joints most subject to this disease are the knee, ankle, elbow, and wrist. At first the swelling is slight, of the same color as the skin, but very painful, diminishing the mobility of the part affected. It can be distinguished from rheumatic swelling of the joints by its fixed and wearing pain, which often exists for a long time before any enlargement of the part is perceptible.

Hydraulic Crane. A crane the motive power of which is water under pressure.

Hydraulic Engines, engines of which the motive power is water under pressure. In principle they do not differ essentially from steam engines.

Hydraulics, the department of mechanical science which deals more especially with the flow of liquids in pipes and channels.

Hydraulic Lift, or **Elevator,** an apparatus on the principle of the hydraulic press, caused by means of a lever to draw up a chain which passes over sets of pulleys, and is thence conducted by leading pulleys over a jib. The weight is by this arrangement raised many times the stroke of the ram.

HYDRANGEA.

Hydraulic Mining, a system of mining in which the force of a jet of water is used to sluice down a bed of auriferous gravel or earth, which is passed through sluices to detain the particles of gold.

Hydraulicon, or **Hydraulic Organ,** a form of organ formerly used, in which the pressure of the air was regulated by water; sometimes called hydraulic organ.

Hydridæ, a family of serpents variously limited. As the name implies, the family consists of snakes living in the water, but it is sometimes restricted to sea serpents of a venomous kind. The tail is compressed, belly keeled, head and eye small, nasal shield large, color yellowish green variegated with rings and spots; found in the Indian Ocean, China Sea, etc.

Hydrocarbon, a name given to compounds of one or more atoms of carbon, with atoms of hydrogen, such as methane, acetylene, etc.

Hydrocephalus, a form of dropsy in the ventricles of the brain, or in the arachnoid cavity, in children, and usually rapidly fatal, though cases have been known to go on to adult life.

Hydrochloric Acid, a gaseous compound of equal volumes of hydrogen and chlorine. It is evolved during volcanic eruptions, and is found in the water which collects in the crevices of mountains, as well as in rivers which take their rise in volcanic formations, especially in South America.

Hydrochloric acid is colorless, has a pungent odor, and an acid taste. It colors moist litmus paper red. It is quite irrespirable, extinguishes flame, and dissolves very readily in water. When it is absorbed by warm water the solution is called muriatic acid.

Hydrocyanic Acid, cyanide of hydrogen, hydric cyanide, hydrogen cyanide, prussic acid. Discovered by Scheele in 1782.

Hydrocycle, a water bicycle, constructed on the principle of a catamaran.

Hydrodynamics, a department of science which treats of the nature of liquids, as opposed to hydrostatics, which investigates the condition of their equilibrium when at rest. It specially investigates, by observation, experiment, or the higher mathematics, the motion of liquids through orifices, in tubes, or that of water in canals, rivers, etc. Its principles are carried out in hydraulics, in which it was formerly merged.

Hydro-electric Machine, a mechanism in which electricity is generated by the friction of steam against the sides of orifices through which it is allowed to escape under high pressure.

Hydrogen, a monatomic metallic element, which exists in the state of gas. Hydrogen has been found occluded in meteoric iron, and is contained in the gases given off by volcanoes. The spectroscope shows that a large quantity of free hydrogen exists around the sun. Pure hydrogen is a colorless, inodorous, tasteless gas; it is inflammable mixed with oxygen; it explodes in contact with a flame, or when the electric spark is passed through it, forming water. Hydrogen gas cannot support life, but it is not poisonous; it is slightly soluble in water.

Hydrogen in small quantities was reduced to a liquid by the French chemists, Cailletet and Pictet, in 1877–1878; and in May, 1898, Prof. James Dewar, of the Royal Institution, London, succeeded in liquefying it in quantity by means of extreme coldness produced by liquid air. Liquid hydrogen is clear and colorless, and shows no absorption spectrum. Its latent heat is about two-fifths that of liquid oxygen. The density of liquid hydrogen is only one-fourteenth that of water.

Hydrography, a branch of science which deals with the measurement and description of the seas, lakes, rivers, and other waters, as used for purposes of commerce or navigation; the art of marine surveying and of the construction of charts.

Hydrometer, an instrument for determining the specific gravity of fluids. The name lactometer is also given to a small instrument of the kind when it is graduated in such a way as to be convenient for determining the specific gravity of milk, and by that means ascertaining its purity.

Hydropathy (Greek, hydor, water, and pathos, affection or disease), a method of treating diseases by the application of cold water, which has come extensively into practice, though scarcely as yet recognized as a curative system by the medical profession.

It was originated by Vincent Priessnitz, a Silesian peasant, who having, when a boy of 13, sprained his wrist, held it under the pump, and afterward bound a wet bandage on it. As this became dry he re-wet it, and thereby reduced the inflammation, but produced a rash on the surface of the skin. He concluded that the rash was an indication of impurity of the blood; and having instituted a series of observations in regard to various wounds and ulcers on the persons of his neighbors, he was led to form a pathological theory, according to which disease is caused by an accumulation of morbific matter, which must be eliminated from the system by cold water applications and the observance of a strict regimen.

In rapid succession he invented the sponge bath, the wet sheet packing, the sitz, the foot, and arm baths, the douche, the stream bath, the dripping sheet, the plunge, the dry blanket packing, and other appliances of the hydropathic system. In 1829 he established, in his native village of Grafenberg, a range of baths, which speedily grew in reputation, and attracted visitors from all parts of Europe. The Austrian government lent him its patronage, and all the opposition of the medical faculty was unable to stem the popularity of the new system. The original establishment at Grafenberg soon expanded into an extensive suite of buildings, stretching along the slope of one of the Sudetic mountains, and resorted to by troops of invalids, who sought to regain health by bathing, exercise, simple diet, and agreeable society. Other hydropathic institutions soon sprang up in other parts of Germany and were at length introduced into England, a hydropathic society having been formed in London in 1842.

Before Priessnitz's death in 1851 he had the satisfaction of seeing his system adopted extensively both throughout the United States and Europe. The treatment used is similar to that of Preissnitz.

Hydrophobia, rabies, from bite of mad dog, more rarely cat, wolf, or fox; a contagious disease, the result of a specific poison. The great danger lies in the fact that a person bitten by a supposed mad dog imagines or simulates its symptoms, especially if nervous or hysterical; whereas only a few of those bitten by a mad dog take the disease. The average period of incubation is 40 days, but it varies from 15 days to two years.

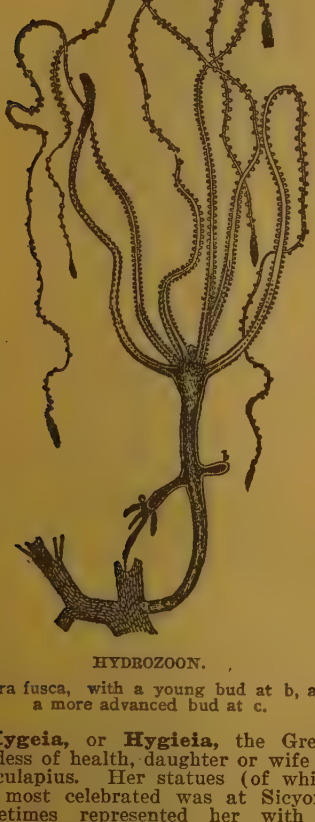
Hydroscope, an instrument for measuring the moisture of the air or other gas.

Hydrostatics, the part of the general science of hydrodynamics that treats of the application of forces to fluids at rest. It is generally divided into two parts, one, hydrostatics proper, which deals with incompressible fluids, such as water, with liquids in fact; and the other, which deals with compressible fluids, that is, with gases. The latter part of the subject is commonly called pneumatics.

Hydrozoon, a name given to the great class of the sub-kingdom Cœlenterata, of which hydra is the type. They exhibit a definite histological structure, their tissues having a cellular organization. These tissues are two, an outer or ectoderm, and an inner or endoderm. In most the prey is seized by tentacles surrounding the mouth and furnished with offensive weapons called thread cells. The hydrozoa are all aquatic, and nearly all marine. Their distribution is world-wide.

Hyena, or **Hyæna,** a genus of digitigrade carnivorous quadrupeds. Hyenas have six incisors and two canine teeth in each jaw, five molars on each side in the upper jaw, and four in the under. The hind-quarters are lower and weaker than the fore-quarters of the body, so that hyenas move with a shambling gait. The body is covered with rather long, coarse hair, forming a mane along the neck and back. The feet have each four toes. The claws are strong, fit for digging, and not retractile. The tail is rather short. Beneath the anus is a deep glandular pouch, contributing much to the offensive odor by which hyenas are characterized. They sometimes attack cattle, especially if they flee, but rarely man, though they sometimes seize children. During the day they hide themselves in caves, old rock-tombs, ruined edifices, etc.; by night they roam singly or in packs in quest of prey. Instead of being untamable, as was long the popular belief, they

are capable of being completely tamed, and show an attachment to man similar to that of the dog; they have even been used as watch dogs. Hyenas are found only in Africa and the S. of Asia, not extending to the farthest E. of the latter continent.



HYDROZOON.

Hydra fusca, with a young bud at b, and a more advanced bud at c.

Hygeia, or **Hygieia,** the Greek goddess of health, daughter or wife of Æsculapius. Her statues (of which the most celebrated was at Sicyon) sometimes represented her with a large serpent coiled round her body, and elevating its head above her arm to drink of a cup which she held in her hand. Isis, in Egyptian monuments, appears sometimes in a similar attitude.

Hygiene, the study of the prevention of disease, the art of preserving health, and securing what Juvenal considered the best gift of the gods, mens sana in corpore sano ("a sound mind in a sound body"), through wise sanitary precautions, and attention to diet, regimen, etc. In this way growth will be increasingly perfected, life more vigorous, decay less rapid, and death more remote.

Hygrometer, an instrument for measuring the comparative moisture of the air.

Hygrometric Balance, an instrument for indicating the relative density of the air, and consequent changes of rain or dry weather.

Hygroscope, a name sometimes given to an instrument for indicating the presence of moisture in the atmosphere, without measuring its amount. Hygroscopic substances are those which imbibe moisture and become coated with a moist film.

Hylæosaurus, a gigantic fossil lizard. Its probable length was about 25 feet. It is one of the group which presents a structure intermediate between that of existing birds and reptiles.

Hymen, the Greek god of marriage. The people of Athens instituted festivals in his honor, and solemnly invoked him at their nuptials, as the Latins did their Thalassius. Hymen was represented as crowned with flowers, holding a burning torch in one hand, and in the other a wreath. It was supposed that he always attended at nuptials; for, otherwise, matrimonial connections were fatal, and ended in dreadful calamities; hence people ran about on these occasions, calling aloud "Hymen!" "Hymen!"

Hymenoptera, an order of insects, comprising bees, wasps, ants, etc., containing about 25,000 species, and now usually acknowledged to stand at the head of the class of insects. They have the mouth furnished with mandibles for cutting and tearing, but the other parts of the mouth are adapted for lapping and suction, and are generally narrow and elongated, often united into a kind of proboscis, as in bees. The antennæ are generally slender, but often exhibit differences in the sexes of the same species. The

wings are four in number, the first pair larger than the second, the wings of the same side united in flight by little hooks. The wings, when at rest, are laid one over another horizontally over the body. Their metamorphosis is complete, the larvæ either, as in ants, wasps, bees, etc., being legless, or, as in the sawflies, with legs somewhat as in caterpillars.

Hymettus, a mountain in Attica, Greece; now called Trelo Vouni, to the S. E. of Athens, was famous among the ancients for its honey and its bluish marble. The honey is still in repute.

Hymn, a sacred composition in poetry intended to be sung with or without the aid of a musical instrument, and not being versified from the book of Psalms, else it is called a Psalm, or directly from any other part of Scripture, or else it is a paraphrase. Hilary, Bishop of Arles, is said to have composed the first hymn for Christian worship about A. D. 431, but as early as the time of Pliny the Younger the Christians are said to have habitually sung one to Christ as God. Luther did much to popularize hymnody in the infant Protestant Church in Germany. Of the hymns now in use many were composed by Isaac Watts, Charles Wesley, John Wesley, Cowper and others. Prominent among Americans who have written hymns are Oliver Wendell Holmes, Phœbe Cary, P. P. Bliss, Ira D. Sankey, Julia Ward Howe who wrote "The Battle Hymn of the Republic," Samuel Francis Smith, author of the national hymn "America," Timothy Dwight, Ray Palmer, who wrote "My Faith Looks up to Thee," Joseph Henry Gilmore, etc.

Hymnology, a collection of hymns; hymns collectively; the hymns used by any particular Church or body.

Hyoid Bone, or **Hyoid Arch,** in anatomy, the second arch developed from the cranium, giving support to the tongue and attachment to numerous muscles of the neck.

Hypatia, an Alexandrian teacher and heroine; born in Alexandria between 370–380. She was the daughter of Theon, an eminent mathematician of Alexandria, whom she succeeded in the government of that school, had a number of disciples, and became very celebrated for her lectures on Plato and Aristotle, both at Alexandria and Athens. Orestes, the governor of Alexandria, had a high respect for Hypatia and frequently consulted her on matters of importance. Between the governor and the patriarch Cyril there was bitter enmity, which broke out into open war, and the monks siding with their chief, assembled in a riotous manner against Orestes, who was obliged to fly from the city. They then seized Hypatia, and having torn her to pieces, burnt her mangled limbs to ashes, 415 A. D.

Hyperbola, in mathematics, one of the three conic sections. It is a plane curve of such a form that if from any point in it two straight lines be drawn to two given fixed points, the excess of the straight line drawn to one of the points above the other will always be equal. The two points are called the foci.

Hyperboreans, according to early Greek legend, dwellers beyond Boreas or the North Wind, a name given by the ancients to a mythical people, whose land was generally supposed to lie in the extreme N. parts of the world.

Hyperdulia, or **Hyperduly,** in Roman Catholic theology, a special homage rendered to the Virgin; a subdivision of dulia.

Hypericaceæ, or **Hypericinæ,** a natural order of about 300 known species, trees, shrubs, and herbaceous plants, widely distributed over the world, and in very different climates, but particularly numerous in North America.

Hyperion, a name for Apollo, a model of manly beauty.

Hyperion, in astronomy, the name given to the 7th satellite of Saturn, discovered in 1848, at the Harvard Observatory by G. P. Bond.

Hypnotism, that which formerly was, that which, popularly, still is called "mesmerism," or, more exactly "animal magnetism," founded on a belief in a so-called "magnetic fluid" which is supposed to pass from operator to subject, has become recognized as hypnotism; and the power which the dormant condition of a hypnotized subject apparently lends to the opera-

tor, is no longer thought by the school of Nancy to be the result, or the effect, of a magnetic fluid emanating from the hypnotizer, but is clearly seen to depend wholly upon the suggestibility of the subject, the school of Nancy being now the sole source of opinions concerning the meanings, and uses of hypnotic suggestion, and Bernheim is its head. The actual foundation of modern hypnotic suggestion was discovered by Liebeault of Nancy, the famous "father of the therapeutic application of suggestion." After several years of practical experience in 1866, he wrote his first book on the subject. It was shelved and he was pronounced erratic. Hypnotism remained a curiosity and Liebeault's book was not reproduced till six years after Charcot, in 1878, began his studies in hypnotism. In 1884 Bernheim wrote his charming book on suggestion and this created a demand for Liebeault's book which then gave him his lasting reputation. He was Bernheim's teacher. Formerly a profound skeptic, Bernheim became unavoidably converted by seeing the results of Liebault's application of suggestion to invalids. Bernheim was a clever clinical professor in the great hospital of Nancy and in his wards he convinced himself of the great value of hypnotic suggestion.

The word hypnotism is generally and largely misunderstood and misused. For example, if a person seems to be wholly influenced by another it is commonly said that he has been hypnotized. This is a great error. The word hypnotism means putting a person to sleep and means nothing else. If an individual seems to be subjected to another in the waking state it should be said that he is unduly influenced. He is not hypnotized. That would mean that he was asleep.

The means by which hypnotism is used is "suggestion." A person may be influenced by suggestion in the waking state, for suggestion is a great force in daily life. As connected with hypnotism, however, suggestion is the expression of an idea or combination of ideas which becomes impressed upon the mind of the somnolent subject to whom it is addressed. Conscious or unconscious results are sure to follow. This explanation sums up the meaning, use and results of suggestion as applied to hypnotism and the hypnotic state.

Hypocaust, a form of furnace used by the Romans for the purpose of heating baths and apartments. It was placed in a chamber beneath the floor, and the heated air and products of combustion were made to circulate round the walls and under the floor by means of hollow tubes or a hollow lining, and were also carried in pipes to other rooms.

Hypochondriasis, a disease characterized by extreme increase of sensibility, palpitations, morbid feelings that simulate the greater part of diseases, exaggerated uneasiness and anxiety, chiefly in what concerns the health. In extreme cases it becomes a species of melancholia. The disease is intimately connected with, if not caused by, disorder of the digestive functions.

Hypodermic Injection, a forcing of some substance beneath the skin; a method adopted in medicine when the condition of the stomach or other organs renders the use of drugs by the mouth objectionable, or when rapidity of action is desired. The medicine is introduced by a small glass syringe fitted with a long, hollow, needle-shaped point of steel.

Hypophosphites, salts of hypophosphorous acid, especially certain medicinal salts, chiefly the hypophosphites of potassium, sodium, and calcium. They are used in medicine.

Hypothecation, in civil law, an engagement by which the debtor assigns his goods in pledge to a creditor as a security for his debt, without parting with the immediate possession; differing, in the last particular, from the simple pledge. In commerce, the pawning of a ship for necessaries, or to raise money in some critical emergency.

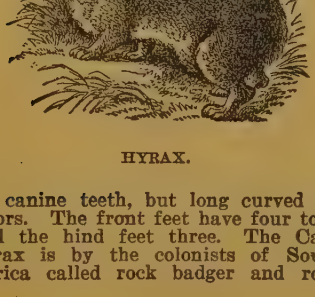
Hypothenuse, or **Hypotenuse,** the name given to that side of a right-angled triangle which subtends, or is opposite to, the right angle. Its property — that the square described on it is equal to the sum of the squares described on the other two sides — is demonstrated and generalized, so as to apply to any figure in Euclid. The

discovery of this property is attributed to Pythagoras.

Hypothesis, etymologically a supposition, is popularly used to denote something not proved, but assumed for the sake of argument. In scientific and philosophical usage it denotes either a probable theory of phenomena not yet fully explained, or a strictly scientific theory which accounts for all the known facts of the case, and which only needs the verification of subsequent observations and deductions to become a certainty. Thus the conjecture of Newton that the force of gravity, as exemplified on the earth, might extend to the moon, was in its first stage a probable hypothesis; but when it was found to account for all the facts, it became a scientific hypothesis or theory.

Hypsometry, that department of geodesy which treats of the measurements of the altitudes or relative heights of various points on the earth's surface.

Hyrax, a genus of pachydermatous mammalia, intermediate in their character between the rhinoceros and the tapir. It is characterized by having



HYRAX.

no canine teeth, but long curved incisors. The front feet have four toes, and the hind feet three. The Cape hyrax is by the colonists of South Africa called rock badger and rock rabbit, from the fact that they inhabit rocky places. They are also called damans.

Hyrcanus, Johannes, a high priest and prince of the Jews. He was son of Simon Maccabæus, on whose assassination he succeeded him as supreme ruler, 136 B. C. Jerusalem was soon after besieged by Antiochus Sidetes, King of Syria, with whom Hyrcanus was compelled to make a burdensome peace. In 131 he accompanied Antiochus in his expedition against the Parthians, and from a victory over the Hyrcanian tribe he acquired the surname Hyrcanus. Antiochus being killed during this war, Hyrcanus threw off the yoke of Syria, conquered Idumea, besieged and destroyed Samaria, and made an alliance with Rome. The last years of his reign were troubled by the dissensions of the Pharisees and Sadducees. He died 106 B. C.

Hyrcanus II., eldest son of Alexander Jannæus; became sovereign pontiff 70 B. C., was dethroned by his brother Aristobulus, and restored by the Romans as a tributary prince in 63. He was beheaded by Herod, 29 B. C.

Hyssop, a genus of plants of the natural order Labiatæ, distinguished by four straight diverging stamens, and a calyx with 15 ribs. The known species are few. The common hyssop is a native of the S. of Europe and the East. It is a half shrubby plant, about 1½ feet high.

Hysteria, a nervous disorder of females. The symptoms are innumerable, and the imitation of other diseases allied to it endless. In many cases, owing to a real defect of will and mental power, the symptoms are extremely distressing, and the bodily health very indifferent, with shrieking, laughing, sobbing, etc. The remedy for all this is undoubtedly mental and moral treatment, change of scene and associations, with general care of the bodily health, particularly as regards diet and the digestive organs, and strict avoidance of alcoholic stimulants.

I, the ninth letter in the English alphabet, and the third vowel. The English language is the only one which denotes, by this same character, the two totally different sounds of i as in pine and i as in pin. In all other languages of Western Europe the letter has the sound of i in pin (nearly) and ee in beef, which is practically the same vowel, only in the former case short, in the latter long. In Latin the characters i and j were used interchangeably, both having the same vowel sound. The sound of our j did not exist in Latin, though sometimes the character had almost a consonantal force, as in Ianus (Janus), etc. With the propagation of Christianity the Latin alphabet became, in many respects, the model of others and this peculiarity of it was also adopted by most of them; so that even after two different signs (the i and j) had been adopted for the two different sounds, words beginning with i and j nevertheless long continued to be mixed together in dictionaries; but the fact that they are distinct in nature (though nearly akin) and have distinct characters, sufficiently authorizes us to separate them.

The Romans used I to signify one, and they continued to count with it up to four, (I, II, III, IIII). The Roman I, put before a V, takes away the value of one; hence IV is equal to four; placed after V it adds one: hence VI is equal to six. The dot over the i originated in the 14th century.

I, used as a pronoun, refers to the person speaking.

Iago, the villain in Shakespeare's "Othello." He causes the death of Desdemona by his falsehoods.

Iambus, in prosody, a foot of two syllables, a short and a long one (˘ ¯). In Latin the iambic verse consists of four six or (in the comic writers) even of eight feet. The odd feet, that is, the first, third and fifth, may be iambuses, spondees, anapæsts, dactyles, or tribrachs (but never trochees). The even feet, however, or the second, fourth and sixth must be iambuses. The more iambuses there are in the verse the more beautiful it is considered. The iambic meter is also the fundamental rhythm of many English verses, as our language runs easily and naturally in iambics.

Ibach, Lawrence J., an American astronomer; born in Allentown, Pa., Oct. 9, 1838; learned the blacksmith's trade and followed it throughout his life in Lebanon co., Pa. The fact that he worked at the forge during the day and studied astronomy at night won him the sobriquet "blacksmith-astronomer." He died in Newmanstown, Pa., Oct. 9, 1888.

Iberia, in ancient geography: (1) A fertile district in Asia, between the Euxine and Caspian seas, which consisted of a plain surrounded by mountains, a part of modern Georgia. (2) An ancient name of Spain, from its river, the Iberus (Ebro).

Iberville, Pierre le Moyne, Sieur d' a French-Canadian naval and military commander; born in Montreal, July 16, 1661. In 1699, by order of the French government he built Fort Biloxi at the head of Biloxi Bay, the first post on the Mississippi river. He afterward established other posts in the same region and was preparing to attack the coast of North Carolina when he died in Havana, Cuba, July 9, 1706.

Ibex, a wild goat, or rather several species of wild goats, the best known of which is the common ibex. It is the ibex of the ancient Romans, the steinbock of the Germans, and the bouquetin of the French. The adult male is about five feet long from nose to tip of tail, and two feet eight inches high at the shoulder. The horns are flat, with two longitudinal ridges at the sides, crossed by numerous transverse knots; they are subvertical, curved backward, dark in color. The hair is red-brown in summer and gray-brown in winter. It inhabits the highest regions of the Alps. An analogous species is found on the Spanish side of the Pyrenees. Three other species are found upon the Asiatic, and two more on the Abyssinian and Nubian mountains.

Ibigau, a very large goat-sucker inhabiting South America; sometimes called the grand goat-sucker.

Ibis, a genus of birds allied to the storks. The sacred ibis was venerated among the ancient Egyptians, who preserved its remains as mummies, and represented it upon their monuments. It is about the size of a hen, the plumage white. It is found through Africa. The scarlet ibis is abundant on the banks of the Amazon, and in many other parts of South America.

Iblis, in Arabian mythology. Satan, and the father of the sheytans, or devils.

Ibn Batuta, an Arab traveler and geographer, whose proper name was Abu Abdullah Mohammed; born in Tangiers in 1304. He spent 30 years (1325–1354) of his life in travel His narrative is extremely interesting, humor and anecdote alternating with graphic description and through it all runs the thread of the writer's naive personality. He died in Fez, in 1378.

Ibn Esra, properly Abraham ben Meir ibn Esra, a Jewish writer and scholar; born in Toledo, about 1092. He traveled extensively, studying poetry, grammar, mathematics, astronomy, and philosophy. He wrote a Hebrew grammar, was one of the earliest critics and commentators on the Bible and composed hymns largely used in the Jewish liturgy. He died in 1167.

Ibn Khaldun Abderrahman, an Arabic historian; born in Tunis in 1322. He is considered the greatest of Arabic historians, his chief work being a history of the Arabs and Berbers in several volumes, with a philosophical introduction to the science of history. He died in Cairo, in 1406.

Ibrahim, Emperor of the Turks, son of Achmet; succeeded his brother Achmet IV. in 1640. He besieged and took the capital of Candia from the Venetians, in 1644; but his cruelties and debaucheries were so great that some of his own soldiers strangled him in 1649.

Ibrahim Pasha, a viceroy of Egypt; born in Cavella, Albania, in 1789. He was stepson and successor of Mehemet Ali. The latter having conceived the design of adding Syria to his dominions, Ibrahim crossed the Egyptian border with an army in October, 1831, took Acre by storm, and quickly made himself master of the whole of Syria. The interference of the great Powers eventually compelled him to relinquish all his Syrian conquests, and to return to Egypt. In 1848 he went to Constantinople, and was installed by the Porte as viceroy of Egypt; but he died in Cairo, Nov. 9, 1848.

Ibsen, Henrik, a Norwegian novelist and dramatist; born in Skien, Norway, in 1828. His youth was passed in extreme poverty. He made several unsuccessful literary attempts; in 1851, was appointed by Ole Bull, director of the National Theater at Bergen. His attention was thus turned permanently to dramatic writing. In 1859 he became artistic director of the Norwegian Theater at Christiania. His plays are much admired for their discussion of social matters.

Icarus, in Greek legend, a son of Daedalus, who with his father fled with wings from Crete to escape the resentment of Minos. His flight being too high proved fatal to him. for the sun melted the wax which cemented his wings and he fell into that part of the Ægean sea which bears his name.

Ice, water in solid form. The color of pure ice is deep blue or green, only discernible when it is in large masses; it is best seen in the clefts of a glacier or of an iceberg. It is specifically

lighter than water which is just about to freeze, and therefore floats in it.

The trade in ice is now one of great and increasing importance. Ice has come to be more and more largely used in preserving provisions, both in refrigerating chambers and otherwise. It is also very largely used by brewers. In surgical operations it is used to produce partial anæsthesia; it serves in fevers to cool the mouth and reduce the internal temperature, while ice in bags, applied to the spine, is found helpful in many cases of seasickness, and in other applications.

In the United States the ice harvest is gathered in on an enormous scale, and with an elaborate system of apparatus. A zigzag line beginning at the N. E. corner of Rhode Island and continuing W., S. W., and then N. W. to the shore of Lake Erie, then in a generally S. W. course to Utah and Southern California, and ending at Puget Sound after turning sharply N. through California, Oregon and Washington marks the N. limit of "artificial" ice manufacture in the United States. Above it is an extensive area in which natural ice can still be harvested and marketed at considerably less cost than ice can be made by machinery.

Ice, Artificial, ice frozen by mechanical or chemical means. It has the great advantage of being easily rendered chemically pure, and it can be manufactured in the hottest countries. Its commercial value in the preservation and transportation of meats, fruits, etc., and for other purposes, can scarcely be estimated.

Iceberg, a mountainous mass of ice floating in the sea. Icebergs are produced by the breaking off of great masses from glaciers which have descended into the sea. When numbers of icebergs freeze together, they form what are called "fields" or "packs," which are often of great extent, stretching across the ocean as far as the eye can reach, and often rising in perpendicular cliffs from 80 to 100 feet above the water. Solitary icebergs are also of vast dimensions; and instances are given, both in Arctic and Antarctic voyages, of floating islands of ice several miles in circumference, rising from 40 to 200 feet above sea-level, and loaded with blocks and shingles. As they are floated by the polar currents to warmer latitudes they melt away, dropping their burdens of bowlders and debris on the bottom of the ocean.

Iceboat, a triangular framework of wood, running by means of a sail — with broad end forward — on three skates or runners 3 feet long by 8 inches deep. There is but one large sail, usually triangular, fastened to a boom and yard, which may be over 30 feet in length. Such an iceboat may be steered by the rudder-skate in almost any direction not in the teeth of the wind, and may attain an average speed of 30 or 40 miles an hour, and sometimes as much as 65 miles. Snow seriously reduces the speed. The Hudson and the Shrewsbury rivers may be regarded as the headquarters of this sport, and there are several iceboat clubs.

Ice-breaking Ship, a vessel designed to force its way through seas, bays, harbors, or rivers, when they are covered with ice. For six months of the year the Gulf of Finland, which is the waterway to St. Petersburg, in lat. 60° N., within 5° of the Arctic Circle, is frozen solid to a depth of 5 to 10 feet. Russia has not a port on the Baltic Sea or the Pacific Ocean into which ships can come from November to April. Many devices have been tried, but the "Ermak" (or "Yermak") is the only ship that has ever succeeded in forcing the barrier. The secret of the power of this wonderful vessel is that she does not break the ice by main force. Under her bow is a screw which forces the water upward. This lifts the ice and cracks it. The powerful steel bow then casts it aside like drift ice and leaves a broad channel clear in which other vessels may safely navigate. In the United States this invention has been used in keeping the Great Lakes open to navigation. An ice-breaking ship employed on Mackinac Strait has a large screw at the bow, as well as at the stern, and breaks the ice by forcing the water up under pack ice and throwing it to both sides. When the bow screw is reversed it has a sucking motion and thus supplements the action of the stern propeller. During the summer months the bow screw is detached.

Ice Calorimeter, a method of determining specific heats by means of ice.

Iceland, an island belonging to Denmark; between the North Atlantic and the Arctic Oceans, 250 miles from Greenland and about 600 miles W. of Norway; greatest length, E. to W., 300 miles; central breadth, about 200 miles; area with adjacent isles, 39,756 square miles. Pop. (1900) 75,663. The interior has generally a very wild and desolate appearance, being covered by lofty mountain masses of volcanic origin, many of them covered with perpetual snow and ice, which, stretching down their sides into the intervening valleys, form immense glaciers.

The climate is mild for the latitude, but the summer is too cool and damp for agriculture to be carried on with much success. In the S. parts the longest day is 20 hours, and the shortest 4, but in the most N. extremity the sun at midsummer continues above the horizon a whole week, and of course, during a corresponding period in winter never rises. Vegetation is confined within narrow limits. The most valuable crop is grass, on which considerable numbers of live stock (sheep, cattle, ponies) are fed. The reindeer, though not introduced before 1770, has multiplied greatly and forms large herds in the interior; but they are of little importance economically. Wild fowl, including the eider duck, whose down forms an important article of commerce, are abundant; the streams are well supplied with salmon, and on the coasts valuable fisheries of cod and herrings are carried on. Manufactures are entirely domestic, and consist chiefly of coarse woolens, mittens, stockings, etc. The exports are wool, oil, fish, horses, feathers, worsted stockings and mittens, sulphur, and Iceland moss.

The inhabitants are of Scandinavian origin, and speak a Scandivanian dialect, which still represents the old Norse or Norwegian in great purity. They are of the Protestant religion. Iceland has a constitution and administration of its own dating from 1874. There is an "Althing," or Parliament, which meets twice a year at Reikjavik, the capital, and consists of 36 members, of whom 30 are chosen by popular suffrage, and 6 nominated by the king. A minister for Iceland, nominated by the king, is at the head of the administration, but the highest local authority is vested in the governor.

Iceland Moss, a species of lichen. It is slightly bitter, as well as mucilaginous. An aqueous decoction of it, when cooled, makes a thick jelly. It is used as a tonic, demulcent, and nutrient.

Iceni, a warlike tribe of ancient Britain, occupying the modern counties of Suffolk, Norfolk, Cambridge, and Huntingdon. They fought against the Romans under their queen Boadicea.

Ice Plant. It is called ice plant from the many watery pustules covering its leaves and shining like ice. It grows on sandy seashores at the Cape of Good Hope, in the Canary Islands, and in Greece near Athens.

Ich Dien, "I serve," the motto of Edward the Black Prince, whose badge was a single ostrich feather, afterward three ostrich feathers. Since Edward's time the motto "Ich Dien" and the badge of three ostrich feathers have been employed as the cognizance of the Prince of Wales.

Ichneumon, a Linnæan genus of insects, now constituting a family or tribe. They are extremely numerous in species. Many of them are minute, others are large insects. All of them deposit their eggs either in or on — generally in — the bodies, eggs, or larvæ of insects or in spiders. Particular species are the natural enemies of particular kinds of other insects. Many caterpillars are infested by three or four species of ichneumons.

Ichneumon, a genus of digitigrade carnivorous quadrupeds having a much elongated body, small head, sharp muzzle, rounded ears, and short legs. The species, which are pretty numerous, are natives of Africa and the warmer parts of Asia. The Egyptian ichneumon, the ichneumon of the ancients, is larger than a cat, gray, with black paws and muzzle. It was a sacred animal among the ancient Egyptians.

Ichnology, the name applied to the modern science of fossil foot-prints, or other impressions on rocks.

Ichor, the ethereal fluid that supplied the place of blood in the veins of the gods of Greek mythology. The name is applied in medicine to the thin watery discharge from a wound.

Ichthyology, the science which treats of fishes.

Ichthyornis, a fossil genus of carnivorous and probably aquatic birds, one of the earliest known American forms. It is so named from the character of the vertebræ, which, even in the cervical region, have their articular faces biconcave as in fishes. It is also characterized by having teeth set in distinct sockets.

Ichthyosaurus, an extinct fish-lizard. It consists of gigantic fossil marine reptiles, with paws which show them to have been carnivorous; and the half-digested remains of fishes and reptiles even of their own species, found within their skeleton is a proof of the nature of their food. Their vertebræ were fishlike, their paddles like those of a porpoise or a whale, and their long powerful tail a propeller which enabled them to dart with great rapidity through the water. One of the earliest and best known species must have been more than 24 feet long.

Ichthyosis, a name for fish-skin disease, characterized by the development on the skin of thick, hard, dry, imbricated scales of a dirty gray color. There is no pain, heat, or itching. It is said to be a congenital disease and lasts through life.

Iconium, an ancient town of Asia Minor, on the W. edge of the plateau that skirts the N. slope of the Taurus Mountains, 310 miles E. of Smyrna. The capital under the Romans of Lycaonia, it was three times visited by St. Paul, who founded there a Christian Church. In 708 it fell into the hands of the Arab conquerors. The modern town is called Konia, the capital of the Turkish vilayet of the same name. Here is the principal monastery of the Mevlevi or "dancing" dervishes in the Ottoman empire.

Iconoclasts, that Christian party which would not tolerate images in the churches, much less the adoration of them. This dispute began in Greece, and extended from thence over Europe; it was most violent in the 8th and 9th centuries. The first cause of the Christian worship of images was the attempt to preserve the memory of the bishops and the martyrs by images. In the 4th, and still more in the 5th century, they were placed in the churches, but in the 6th century people began to kiss the images in token of respect, to burn lights before them, to offer incense in honor of them and to ascribe to them miraculous power. The Eastern Emperor Leo III. issued an edict in 726 ordering the people to abstain entirely from the worship of statues, as well as paintings and mosaics, and this edict was soon after followed by another ordering the destruction of the images. This order occasioned commotions, and the Emperor Leo refusing to recall his edict on their command they excommunicated him, and his subjects in Italy threw off their allegiance. Then arose two parties in the Christian Church, namely, the Iconolatrae (image worshipers) and the Iconoclasts, who each in turn persecuted the other even to death. Finally the Empress Theodora, by a council held at Constantinople (842), restored the worship of images among the Greeks. In the Western empire images were at first retained only to preserve the memory of pious men but the worship of them was forbidden. This use of them was confirmed by a council summoned by Louis the Debonnaire in 825; but this opinion was gradually abandoned, and the decision of the Pope, which allowed the worship of images, finally prevailed in the Western Church.

Ice Cape, a headland of Alaska, projecting into the Arctic Ocean.

Ida, a high mountain range in Asia Minor, extending from Phrygia through Mysia into Troas. The city of Troy was situated at its base. It is the scene of many ancient legends. On this Ida, according to an ancient legend, Zeus was educated.

Idaho, a State in the Western division of the North American Union; bounded by Montana, Wyoming, Nevada, Oregon, Washington and British Columbia; admitted to the Union July 3, 1890; number of counties, 21; capital, Boise; area 84,800 square miles; pop. (1890) 84,385; (1900) 161,772.

The surface of the State is exceedingly mountainous. The Rocky

Mountains form the N. E. boundary separating Montana from Idaho, and send out spurs in a W. direction extending to the Sierra Nevadas. Three-fourths of the State — the S. portion — is arid, agriculture being practised only by means of irrigation. The soil is very fertile and the water supply abundant. The entire State drains into the Columbia with the exception of a small portion in the S. E., which is drained by Bear river into the Salt Lake basin. There are many beautiful waterfalls in the State, the Snake river having four important ones, namely, Shoshone, a 210-foot fall, Twin, Salmon, and American Falls. The mean elevation of the State is about 4,700 feet.

The soil is largely of volcanic origin and is very fertile when water is applied. The mountains are for the most part covered with forests, which are largely evergreen. The S. counties are covered with sage plains which, under irrigation, are well adapted to agriculture. The N. portion of the State and the upper portions of the Boise, Weiser, and Payette valleys are covered with dense forests, the principal timber being white and yellow pine, fir, cedar, spruce, hemlock, and tamarack.

Gold, silver, and lead occur in abundance throughout all the mountains in the State. Large bodies of goldbearing gravel are found along the Snake, Salmon, and Boise rivers, the Boise basin being noted for its auriferous gold deposits. About one-third of the lead mined in the United States comes from the Cœur d'Alene district.

The N. part of the State is noted for its wheat. All cereals and the ordinary garden vegetables and small fruits are grown. Peaches, pears, apples, apricots, and prunes are the principal products of horticulture. The mountains of the S. portion afford excellent pasturage and, with irrigation, the plains of the Snake river and its tributary valleys are rapidly being converted into cereal fields. The principal articles of manufacture include flour and grist, railroad cars, lumber and timber products, printed matter, harness and saddlery, dairy products, furniture, foundry and machine-shop products, clothing, liquors, tobacco, and cigars.

In 1900 the school population was 54,839; the enrollment in public schools 38,996, and for higher education there were 10 high schools (public), 10 private secondary schools, 2 public normal schools, and the University of Idaho.

The governor is elected for a term of two years and receives a salary of $3,000 per annum. Legislative sessions are held biennially, and are limited in length to 60 days each. The Legislature has 21 members in the Senate and 46 in the House, each of whom receives $300 per session. There is one representative in Congress.

Idaho was for years successively a part of Oregon, Utah, Washington, and Nebraska, and was explored early in the 19th century by Lewis and Clarke. A mission was established at Cœur d'Alene in 1842, but till the discovery of gold in 1852 the State was visited only by hunters. Idaho was organized as a Territory, March 3, 1863, but in 1864 part of it was set apart as Montana and in 1868, another part, forming part of Wyoming. In the summer of 1889 a convention framed a constitution and a petition for admission to the Union, being admitted the following year, the 30th State in order of admission.

Idaho, University of, a coeducational non-sectarian institution in Moscow, Ida.; founded in 1892.

Iddesleigh, Stafford Henry Northcote, 1st Earl of, an English statesman; born in 1818. He was educated at Balliol College, Oxford, where he gained the highest honors; became private secretary to Gladstone in 1843, and was called to the bar in 1847. He was made special commissioner to the United States to arrange the "Alabama" difficulty. Subsequently he was secretary for India (1867–1868) and chancellor of the exchequer (1874–1880). Upon Mr. Disraeli's elevation to the peerage he became leader of the Lower House, his task being all the more difficult on account of the parliamentary obstruction of the Irish Home Rule party. He was elected lord rector of Edinburgh University in 1883. Lord Salisbury having undertaken to form a government, he was created (1885) Earl of Iddesleigh, and became first lord of the treasury. He died in 1886.

Ide, Henry Clay, an American jurist; born in Barnet, Vt., Sept. 18, 1844. He was graduated at Dartmouth in 1866. Having served in the Vermont Legislature and other public offices, he was made United States Commissioner to Samoa in 1891, and was chief-justice of the island in 1893–1897. In 1900 he was appointed a member of the Taft Commission to the Philippine Islands.

Idealism, the name given to certain philosophical systems which deny the individual existence of object apart from subject; or of both apart from God or the Absolute. Idealism denies the existence of bodies, holding that their appearances are merely ideas (perceptions) of the cogitant subject. Subjective idealism teaches that these ideas are produced by the mind; objective idealism that God is their author. To these two hypotheses all idealism may be reduced.

Ides, in the ancient Roman calendar, the 15th day of the months March, May, July, and October, and the 13th day of the other months.

Idiocy, a condition defined by Ireland as "mental deficiency or extreme stupidity depending upon malnutrition or disease of the brain occurring either before birth or before the evolution of the mental faculties in childhood; while imbecility is generally used to denote a less decided degree of such mental incapacity." The difference between both conditions and dementia is that the dement was once sane and responsible, the idiot and the imbecile never developed mental capacity at all; they remained arrested children. There are great varieties of idiocy and imbecility. Some of the lowest have no speech, no power of distinguishing between one person and another, no affection or hatred, no feelings of pleasure or pain, no power to take care of themselves, and can never be taught any of these things. In body such idiots are dwarfish, misshapen, ugly, with the features and expression of face often of the lowest of the lower animals, with no power of walking. This being the condition of the lowest varieties, they rise gradually in the scale till many imbeciles are beautiful in features, and reach normal bodily development, but are slightly wanting in some essential mental faculty, in intelligence, or in affection, or control, or self-guidance. The mental deficiency is in by far the majority of idiots and imbeciles accompanied by corresponding bodily weaknesses of some sort.

Idiots and imbeciles are regarded as children all their days by the law, and provisions are made for the appointment of tutors and curators for them. They are held irresponsible for their acts.

Idiosyncrasy, a distinctive peculiarity of the mental or bodily constitution of any person, or that constitution or temperament which is peculiar to any person.

Idolatry, the worship of idols, images, or representations made by hands to represent divinity, or of any inanimate object; the worship of false gods; paganism. According to Sir John Lubbock, idolatry or anthropomorphism is the fifth of six progressive stages in the history of religion. The ancient Egyptians, the Greeks, and the Romans, the modern Chinese, Burmese, Hindus, etc., are all in that fifth stage of religious development.

Idria, a mining town in the Austrian crownland of Carniola, celebrated for its quicksilver mines (discovered in 1497). Upward of 230 tons of quicksilver are produced annually, and about 20 tons of cinnabar (red sulphuret of mercury).

Idyl, or **Idyll,** a short poem, the subject, or at least a necessary accompaniment of which, is a simple description of pastoral nature, life, and scenery, or of events in pastoral life; as Goldsmith's "Deserted Village," etc. Tennyson has given the name "Idylls" to a series of poems founded on incidents in the Arthurian legend.

Igarape, a canoe-pass, the name given by the Indians to the side-channels or bayous by which the river Amazon is bordered from its mouth up to a great distance.

Iglehart, Ferdinand C., A. M., D. D., born in Indiana, Dec. 8, 1845; pulpit orator, reformer, and author. His latest work "The Speaking Oak" (1903) passed through several editions, aggregating 30,000 copies.

Iglesias, Jose Maria, a Mexican historian and publicist; born in the City of Mexico, Jan. 5, 1823; figured

very prominently in his country's politics; and wrote: "Contribution to a History of the War between Mexico and the United States" (1852).

Iglesias, Miguel, a Peruvian statesman; born in 1822. He held cabinet offices; led the army in the war with Chile; and was defeated for the presidency in 1886.

Igloolik, an island near the E. end of the Fury and Hecla Strait in the Arctic Ocean; the place where Parry passed the winter of 1822–1823.

Ignacio, a group of islands of Mexico, in the Gulf of California, off the coast of the State of Sinaloa.

Ignatieff, Nicholas Paulovitch, a Russian diplomatist; born in St. Petersburg in 1828. He was conspicuous in the negotiations before and after the Russo-Turkish war, and was appointed minister of the interior, but was dismissed in 1882. He represented the party in favor of war, in opposition to Prince Gortchakoff. He was subsequently made governor-general of Irkutsk.

Ignatius, surnamed Theophorus, a father of the Church, and martyr; a native of Syria, and a disciple of St. John, the Evangelist, by whom he was made bishop of Antioch, A. D. 68. After discharging the episcopal office with great zeal for 40 years, the Emperor Trajan, passing through Antioch in his Parthian expedition, sent for him, and endeavored to prevail upon him to renounce his religion. Ignatius continued inflexible; on which the emperor sent him under a guard of soldiers to Rome, where he was exposed to wild beasts in the amphitheater for the amusement of the people. The martyr joyfully heard his sentence, and endured his sufferings with fortitude. Two pious deacons of his church gathered up his bones, and conveyed them to Antioch.

Igneous, in geology, a term applied to all agencies, operations, and results, which seem connected with, or to have arisen from, subterranean heat. Igneous rocks are evidently the products of fusion, either in the interior or at the surface of the crust.

Ignis Fatuus, a kind of luminous meteor, which flits about in the air a little above the surface of the earth, and appears chiefly in marshy places, or near stagnant waters, or in churchyards, during the nights of summer. This phenomenon has not yet received a satisfactory explanation. The most general opinion is, that it is due to the emanation and spontaneous combustion of some highly inflammable gas, given off by decaying organic matter.

Ignoramus (Latin, "we do not know"), the word formerly written by a grand jury on the back of an indictment, meaning that they rejected it. The word is now used most commonly as a synonym for a blockhead.

Igor I., a grand duke of Russia; succeeded his father Rurick, and, after making war a long time against his neighbors, proceeded to ravage the East, deluging with blood Pontus, Paphlagonia, and Bithynia. He left his throne to his wife Olga, who in her old age embraced Christianity. He died in 935.

Iguana, a genus of saurian reptiles, natives of Brazil, Cayenne, the Bahamas, and neighboring localities in the New World. It was formerly very common in Jamaica, but is now becoming gradually rarer. It has a lizard-like form, with a long tail, and an average length of about four feet, though it sometimes reaches a length of fully six feet. Its head is large and covered with large scales. The food of the Iguana consists almost entirely of fruits, fungi, and other vegetable substances, though it occasionally feeds on eggs, insects, and various animal substances. When domesticated it eats leaves and flowers. Along the whole length of the back to the tip of the tail there is a crest of elevated, compressed, pointed scales, while over the lower part of the head and neck there is a deep, thin dewlap or throat pouch, the border describing a curved line and dentilated at the part nearest the chin.

Iguanida, a family of Lacertian reptiles belonging to that group which possesses a columella, whose vertebræ are concave anteriorly, and which have epidermic plates on the head. The genus Draco, whose metropolis is in Asia, is remarkable for the possession of a patagium or parachute-like expansion of the integument of the sides of the body from the shoulder to the flank. The membrane is supported by

rib-like processes, and is not a wing, but simply when expanded allows the animal to glide through the air from a higher to a lower level. Some of these forms are smaller than many tropical butterflies, and their colorings are similar to those of nocturnal moths.

Iguanodon, the largest known quadruped; was a denizen of South England during the later Tertiary times. It belongs to an assemblage of reptiles whose pelvic bones are strikingly like those of birds. The size attained by these reptiles was overestimated by Mantell and Buckland at 70 feet: Owen's calculation is 30 feet, a size still gigantic enough to impress strongly on the imagination the extent of that continent which formed the dry land of the cretaceous ocean and the abundance and large dimensions of its vegetation.

IGUANA.

Ile-de-France, one of the old provinces of France, having Paris as its capital, and now mostly comprised in the departments of Seine, Seine-et-Oise, and Oise.

Iletzk, a town in the Russian government of Orenburg. Close by is the richest salt-bed in Russia, yielding nearly 21,700 tons of salt annually. It was discovered by Pallas in 1769.

Ileum, the portion of the small intestines communicating with the larger intestine. It is formed by one of the folds of the peritoneum. Sometimes there is a pouch or diverticulum from the main tube.

Ilex, a tree often named in the Latin classics, the evergreen oak or holm oak. In modern botany ilex is the generic name of the holly.

Iliad, a celebrated epic poem in the Greek language, consisting of 24 books. Its composition is generally ascribed to Homer. The chief subject of the poem is the wrath of Achilles, and the calamities thence arising.

Ilium, or **Ilion,** a name of Troy, in Greece, which was founded by Ilus.

Iliyats, a nomadic race of Persia, Khiva, and Turkestan. The Iliyats are mostly of Turkish, Arabic, and Kurdish descent, and form an important portion of the population of Persia and adjacent countries; their actual numbers are not known, but it is said that the Iliyat tribes tributary to Khiva number 195,000. They live in tents and have no settled habitations. They are Mohammedans of the Sunni sect, but are not very strict. The women are said to be chaste, and many of the best families in Persia are of Iliyat origin.

Illimani, one of the loftiest peaks in the Bolivian Andes, fully 21,000 feet high, and covered with glaciers.

Illinois, a State in the North Central Division of the North American Union; bounded by Indiana, Kentucky, Missouri, Iowa, Wisconsin, and Lake Michigan; admitted to the Union, Dec. 3, 1818; number of counties, 102; capital, Springfield; area, 56,650 square miles; pop. (1890) 3,826,451; (1900) 4,821,550.

The surface of the State is generally flat, rising in an inclined plane from depression of 300 feet near Cairo, to an elevation of 820 feet in Jo Daviess county. A spur of the Ozark Mountains crosses the S. part of the State. The principal physical features of the State are the great prairies or natural meadows, from which Illinois derives its popular name, the "Prairie State." The river system of Illinois is the most extensive in the Union. The Mississippi forms its entire W. boundary, and its great E. tributary, the Ohio, with its affluents,

the Illinois, Wabash, Kankakee, Des Plaines, Kaskaskia, Mackinaw, Sangamon, Vermilion, and their numerous tributaries, form a water system of over 280 streams.

Bituminous coal is found in a field, 375 miles long by 200 miles broad, usually in the form of cannel coal, though some excellent smelting coal is also found. The coal production in 1899 was 24,439,019 short tons, valued at $20,744,553, making the State second in the United States in this product. Though but little iron exists in Illinois, its fuel advantages give it third place in the Union in the treatment of iron ores. Other important mineral productions are mineral waters, clay, natural gas, and petroleum. Besides these, there are deposits of lead, copper, gypsum, limestone, and marble.

The soil is generally black, light, rich, and warm, and free from stones and pebbles, though in places it is mixed with a siliceous sand. Illinois is one of the foremost States in agriculture. The fertility of its soil makes it especially adaptable for the raising of cereals, farm and garden vegetables, and fruit. It produces large crops of oats, wheat, corn, hay, etc., and among its chief products are raspberries, strawberries, cherries, plums, peaches, grapes, apples, potatoes, tobacco, maple sugar, hops, flaxseed and broomcorn.

Besides farming, the principal industries are slaughtering, meat packing, and the manufacture of iron and steel.

By recent statistics the school population was 1,431,000; and the enrollment in public schools, 945,143. For higher education there were 343 public high schools, 65 private secondary schools, 3 public and 2 private normal schools, 31 universities and colleges for men and for both sexes, and 4 colleges for women. Among the most notable colleges are the University of Chicago, Northwestern University, at Evanston, University of Illinois, at Champaign, and several others.

The governor is elected for a term of four years and receives a salary of $6,000 per annum. Legislative sessions are held biennially and have no time limit. The Legislature has 51 members in the Senate and 153 in the House. There are 25 representatives in Congress.

The first white settlement in Illinois was the Jesuit mission at the Indian village Kaskaskia, founded by Marquette in 1673. It was part of a county of Virginia till 1787, when it became part of the Northwest Territory, and in 1809 it became the Territory of Illinois. Illinois was admitted to the Union in 1818. In 1847 a new constitution was framed and in 1870 the present one.

Illinois, a confederacy of five tribes of North American Indians, comprising the Peoria, Kaskaskia, Cahokia, Tamaroa, and Michegamia. They formerly occupied Illinois and adjacent parts of Wisconsin, Iowa, and Missouri. They were constantly at war with the Iroquois. The assassination of Pontiac by a Kaskaskia in 1765 was avenged by the Lake tribes in a war of destruction.

Illinois, The, a United States battleship; launched at Newport News, Va., Oct. 4, 1898. In its main features the "Illinois" resembles the "Oregon," but is larger by 1,000 tons.

Illinois, University of, a coeducational non-sectarian institution in Urbana, Ill.; founded in 1868.

Illinois Wesleyan University, a coeducational institution in Bloomington, Ill.; founded in 1850 under the auspices of the Methodist Episcopal Church.

Illuminati, a Spanish sect, known vernacularly as Alumbrados. They rejected the sacraments, and held that by mental prayer they might attain such perfection as to dispense with good works, and that they might commit any crime without sin.

The name has been given to many secret societies professing high aims, including a society formed at Ingolstadt, in 1776, by Adam Weishaupt, Professor of Canon Law, and an ex-Jesuit. Many educated men of liberal views joined it. Its objects were religious and political emancipation, its ideal form of government republican, and its religion deistic. The Baron von Knigge, one of the principal members, quarreled with Weishaupt; the order was suppressed by edict, March 2, 1785, and Weishaupt was degraded and banished. The Illuminati were supposed to exercise

great political influence; but it is now believed that the views on that subject were exaggerated.

Illumination of Manuscripts, the art of painting manuscripts with miniatures and ornaments, an art of the most remote antiquity. The Egyptian papyri containing portions of the Ritual or "Book of the Dead" are ornamented with veritable drawings and colored pictures. Among Oriental nations, the Persians, Hindus, and Chinese have illuminated manuscripts of great beauty, none of which, however, can compete with those of the western nations in antiquity. For beauty of design some of the Arab manuscripts are charming, but their antiquity does not reach beyond the 13th century. The Chinese Buddhists have also illuminated classics, or religious books of their sect.

Illusions, conditions usually distinguished as having some basis in outward physical facts, from delusions, which are purely subjective hallucinations, with no foundation save perverted imagination, or otherwise disordered faculties. Optical illusions are exemplified by the appearances connected with mirage.

Illustration of Books, the art of making and reproducing pictures to supplement or adorn the text.

Illyria, Illyris, or **Illyricum,** a name anciently applied to all the countries on the East coast of the Adriatic.

Iloilo, the capital of the island of Panay in the Philippine group, and second only in importance to Manila, from which it is 250 miles distant. Early in 1899 it was taken possession of by the insurgents, who drove the Spaniards out and made it the seat of the so-called government of the Visayas Federation. After the treaty of peace between Spain and the United States was ratified, Feb. 6, 1899, General Miller was instructed by General Otis to communicate with the rebel governor and make conditions of surrender. This was done Feb. 11, and the insurgents were given till the evening of that day to evacuate the city under penalty of bombardment and assault. Their only reply was to fire upon the gunboat "Petrel," conveying General Miller. The "Petrel" and her consort, the "Baltimore," then bombarded the town and in a few hours the insurgents set fire to the place and fled. The American troops soon extinguished the fire and hoisted the stars and stripes. Iloilo has a fine harbor, and a better climate than Manila, and is surrounded by extensive sugar plantations; the annual crop is about 1,000,000 piculs.

Image Worship, the adoration in public or private of graven or painted representations of sacred persons or things. Neither in the New Testament nor in any genuine writings of the first age of Christianity can any trace be discovered of the use of statues or pictures in the worship of Christians, whether public or private. Later, however, the introduction of images into the church, first as representations of distinguished ecclesiastics and saints, which later came to be objects of worship, caused a controversy which lasted for centuries.

At the Reformation the reforming party generally rejected the use of images as an unscriptural novelty, and stigmatized the Roman Catholic practice as superstitious and even idolatrous. The Zwinglian, and subsequently the Calvinistic Churches entirely repudiated all use of images for the purposes of worship. Luther, on the contrary, while he condemned the worship of images, regarded the simple use of them even in the church for the purpose of instruction and as incentives to faith and to devotion as one of those adiaphora, or indifferent things, which may be permitted, though not of necessary institution; hence, in the Lutheran churches of Germany and the Northern kingdoms, pictures, crucifixes, and other religious symbols are still freely retained. In the Protestant Episcopal the practice is still a subject of controversy. In all the Protestant communions images are entirely unknown.

The Roman Catholic Church, through the decree of the Council of Trent, disclaims the imputation commonly made against Roman Catholics of the idolatrous worship of images, "as though a divinity dwelt in them, or as though we (Roman Catholics) asked anything of them, or trusted in them, as the heathens did in their idols." It renews the Nicene distinction between absolute and relative worship; the latter of which alone —

"whereby we worship Christ and the saints, who are the prototypes of these images" — it sanctions or permits; and it contends for the great advantage, especially in the case of rude and unlearned people, to be drawn from the use of pictures and statues in the churches as "memorials of the sufferings and of the mercy of our Lord, as instructive records of the virtues of the saints, and exhortations to the imitation of their example, and as incentives to the love of God and to the practice of piety."

Imbecility, the quality or state of being imbecile; weakness, mentally or physically. That which in its highest form is genius, in its lowest is imbecility.

Imbriani, Vittorio, an Italian poet; born in Naples, Oct. 27, 1840; died in Naples, Jan. 1, 1886.

Imitatio Christi, a famous book translated into more languages than any book except the Bible. The question of its authorship has given rise to a great controversy. It was formerly attributed unhesitatingly to Thomas a Kempis, and the best authorities still regard it as his work. But it has been claimed for Bernard of Clairvaux, and for many other writers, both famous and obscure.

Immaculate Conception, a name applied to the Roman Catholic dogma defined by Pope Pius IX., on Dec. 8, 1854, that the immaculate conception of Mary is an article of divine faith. According to the dogma, in her active conception, or generation, there was nothing miraculous; but in the passive conception, or infusion of a rational soul, she was sanctified and preserved from the taint of original sin by the foreseen merits of Christ. The traditional day of Mary's conception has been honored with a feast from the 12th century, and found a place in the calendar in the 14th century. The Council of Trent expressly excepted Mary from the decree "On Original Sin," adopted in the fifth session (June 17, 1546). The question is one with which Protestants do not concern themselves.

Immanence, the notion that the intelligent and creative principle of the universe pervades the universe itself, a fundamental conception of Pantheism.

Immanuel, the name which was to be given to a child who, it was prophesied by Isaiah, was to be born of haalmah, i. e., the virgin. In Matt. i: 23 the prophecy is applied to the miraculous birth of Jesus from the Virgin Mary.

Immigration, the entrance into a country of aliens with a view to settlement. The voluntary immigration of aliens into the United States has been a potent factor in the creation of the country's greatness. In the early years it brought the best of every country; the men with courage and enterprise enough to risk all the dangers and hardships of emigration in order to improve their own condition and that of their children after them. But much of the recent immigration has been of a different sort. For a time European governments by "assisting" emigrants poured in upon America paupers, cripples, insane persons, and incorrigible criminals. This was prevented or very greatly checked some years ago. Then came "head money" immigration — that is to say, immigration induced by the agents of steamship and railroad companies, whose sole concern was to secure passage money, as they might seek cattle shipments for freight money. It was an evil so pronounced that Congress passed a general law in 1897 dealing with the entire subject of immigration. Supplementary bills were enacted into law subsequently. Persons of bad moral character, and those who are physically or mentally defective, or liable to be a burden on the community are excluded; also all who have come to work under contract at any trade or common labor. In the year 1820 the number of immigrants to the United States was 8,385. From that year the number while fluctuating yearly gradually increased until the high point was reached in 1882, the number for that year being 788,992. Since that time the number has been smaller, decreasing to 230,832 in 1897, and again increasing to 648,743 in 1902.

Great changes have recently taken place in the character of immigration. The immigration from Ireland and Germany proper, has greatly decreased, while immigrants are coming in vast numbers from Italy, Austria-Hungary, and the Russian empire. Most of the

last-mentioned are Russian Jews. There is also such a large immigration from Scandinavia that portions of that region are threatened with depopulation.

Immortality, exemption from death; the state of everlasting life. The dogma of the immortality of the soul is very ancient. It is connected with almost all religions, though under an infinite variety of conceptions. By the immortality of the soul we understand the endless continuation of our personality, our consciousness, and will. The belief in immortality becomes intimately connected with our belief in the existence and goodness of God. Among rude peoples the life after death is usually regarded as a state of being not essentially different from the present — one in which the hunter shall renew his chase, and his corporeal senses shall have their accustomed gratifications. Among the ancient Greeks and Romans the spirits of the dead were believed to live in the other world as a sort of shadows, and the life after death was also considered as a shadow of the present. Among some peoples the imagination attributes changes of condition to the future life, and the doctrine of transmigration, or the progress of the mind or soul in different stages, is developed. Connected with the belief in the immortality of the soul is the belief in a state where souls are purified after death, as existing among the Egyptians and many Christians.

Immortelles, a name for flowers, also known as everlasting flowers, and often made into wreaths for adorning graves.

Immune, safe from an attack; protected, as from a specific virus or disease by vaccination, inoculation, or antitoxin treatment, or by previous illness. During the Spanish-American War 10 regiments of yellow fever immunes were recruited for service in Cuba.

Impalement, a cruel punishment not uncommon in the Dark Ages, and still practised in barbarous countries. The body of the victim is impaled on a sharp stake.

Impeachment, the act of accusing, or charging with a crime or misdemeanor; the arraignment of a minister of state for maladministration or treason.

The Constitution of the United States provides that the House of Representatives shall have the sole power of impeachment; and that the Senate shall have the sole power to try all impeachments. Section 4 of Article II. provides that the President and Vice-President and all civil officers of the United States shall be removed from office on impeachment for and conviction of treason, bribery, or other high crimes or misdemeanors. The removal of Federal officers by impeachment proceedings under Section 4 of Article II. of the Constitution has been attempted seven times.

The most noted case of impeachment in the United States was that of Andrew Johnson on March 4, 1868, the 11 articles charging the President in various forms with violation of the Tenure of Office act, with violation of the Constitution, with conspiracy to prevent the execution of the Tenure of Office act, with conduct and utterances tending "to bring the high office of President into contempt, ridicule, and disgrace"; and with the public declaration, in his speeches while swinging around the circle, that the Thirty-ninth Congress was no constitutional legislature. It is not necessary to recite the history of the memorable trial, which lasted for nearly three months, and in which the hottest of political passions were enlisted. Thirty-six votes were needed to convict. No vote was ever taken except on the three strongest articles, the second, third, and eleventh, and on each of these the Senate stood 35 for conviction to 19 for acquittal, impeachment failing by a single vote. One of the counsel who defended President Johnson was William M. Evarts of New York.

In England impeachments are made in the House of Commons and tried by the House of Lords.

Imperator, a title originally bestowed upon a victorious leader on the field of battle by his soldiers; toward the end of the commonwealth it was conferred by the Senate. Later it became equivalent to the modern emperor.

Imperial City, a designation of Rome, for ages mistress of the world.

Imperial Federation, a term in English politics for the consolidation of the British empire, so as to combine its resources for the maintenance and defense of common interests, while leaving intact the existing rights of colonial parliaments in local affairs.

Imperial Guard, the name given to the consular guard when Napoleon I. became Emperor of France in 1804. It was disbanded in 1815, but revived on May 4, 1854, and took part in the Crimean War in 1855. In 1870 it surrendered at Metz to the Germans, and was soon after abolished.

Imperialism, in the United States "imperialism" is used to refer to the policy of "national expansion." The opponents of expansion made the constitutional right of the United States to establish a government over territory acquired by conquest or purchase a question in the political campaign of 1900; the Democrats holding such government unconstitutional; Republicans affirming that the responsibility resultant from the defeat of Spain, and the ensuing failure of Spanish government, must be met, and a stable government established. On Dec. 2, 1901, the Supreme Court of the United States handed down a decision on the constitutionality of the policy of expansion. The broad principles settled by the decision are succinctly stated to be these: (1) The Constitution does not follow the flag till it is planted on new territory by special act of Congress. (2) The extension of the sovereignty of the United States to new territory carries with it all the constitutional guarantees of the enjoyment of liberty, the right to property and the protection of the United States to the people thus affected in securing justice and maintaining public order and promoting peaceful progress. (3) The islands acquired from Spain by the treaty of Paris are "property of the United States" in the strict sense in which that term is used in the Constitution, and, this being the case, Congress can dispose of these islands in any way which it may believe to be conducive to the highest interests of the people of the United States and of these islands.

Impost, a tax, a toll, a tribute, a duty; a custom or duty levied upon goods imported.

Impressionism, the system in art or literature which, avoiding elaboration, seeks to depict scenes in nature as they are first vividly impressed on the mind of the artist or writer.

Impressment, the forcible levying of seamen for service in the navy. The practice of impressing and granting powers to the British admiralty for that purpose is of very ancient date; though no statute has expressly declared this power to be in the crown, yet many of them strongly imply it.

Imprimatur, a license which, in countries subjected to the censorship of the press, must be granted by a public functionary appointed for the purpose before any book can be printed.

Imprisonment, the restraint of one's liberty under the custody, charge, or keeping of another. Imprisonment extends not only to a jail, but to a house, stocks, or where a man is held in the street, for in all these cases the party so restrained is said to be a prisoner so long as he has not his liberty freely to go about his business as at other times. No man can be imprisoned except by the law of the land, and no man is to be imprisoned except as the law directs, either by command and order of a court of record, or by lawful warrant.

Improvisatore, one who composes and recites or sings extemporaneous or impromptu verses upon any given subject without premeditation.

Inaga Palm, a tree growing in South America, common to the countries near the Amazon; sometimes called the jagua palm. It has a tall, heavy stem, and its leaves are sometimes 50 feet long. The fruit grows in clusters and has a tough skin, a soft pulp, and a hard, stony seed. The Indians eat it and monkeys and birds are fond of it.

In Articulo Mortis (at the moment of death), a phrase relating to the execution of deeds by persons at the point of death.

Inca, a Peruvian or rather Quichua title, signifying chief, applied to the imperial head of the Peruvian empire, and also to the governing caste or race from which he sprung, and which had a prescriptive right to the highest sacerdotal and civil dignities of the empire.

Incantation, a formula, either said or sung, supposed to add force to magical ceremonies. Incantations in classic times were employed: (1) To control the powers of Nature; (2) to compel the attendance and assistance of supernatural beings; (3) as love spells, in which sense they linger to the present day; and (4) as a means of inflicting injury. Occasionally they were used in sympathetic medicine.

Incarnation, the usual theological term for the union of the divine nature with the human in the divine person of Christ.

Incense, a perfumed vapor usually of smoky appearance, used in religious rites.

Jewish.— This is sometimes confounded with frankincense, which is the name of a plant. Incense was compounded of stacte, onycha, galbanum, and pure frankincense, an equal part of each by weight. Incense was to be burnt every morning and evening on the "altar of incense," on the great day of atonement, and on a number of other specified occasions.

Christian.— In the Roman and Greek Churches it is used in all the solemn offices. It is mentioned in the first Ordo Romanus, probably of the 7th century. In the English Established Church the use of incense was gradually abandoned after the reign of Edward VI. till the ritualistic revival of the present day; but it has never been formally prohibited.

Inch, a lineal measure, being the 12th part of a lineal foot, or the 36th part of a lineal yard.

Inclination, the mutual approach, tendency, or leaning of two bodies, lines, or planes toward each other, so as to make an angle where they meet, or where the lines of their direction meet. This angle is called the "angle of inclination." In pharmacy, the act by which a clear liquor is poured off from some fæces or sediment by only stooping the vessel; also called decantation.

Inclined Plane, one of the mechanical powers. It consists of a plane, inclined obliquely to the horizon. The inclined plane is used for the descent of bodies; also for the ascent, by vehicles, etc., of hills far too steep to be directly scaled by wheeled carriages.

In Cœna Domini, a celebrated papal bull. It may be briefly described as a summary of ecclesiastical censures, especially of those with which grievous violation of the faith of the Church, or of the rights of the Church, or of the Roman see, are visited.

Incombustible Substances, those which have been so prepared as to be incapable of being kindled or of being consumed by fire. Cloth made of the fibers of asbestos, by weaving, will bear a considerable heat without injury. Incombustible cloth is also made by preparing cotton and linen fabrics with solutions of borax, phosphate of soda, phosphate of ammonia, or sal-ammoniac.

Income Tax, a tax levied directly from income of every description, whether derived from land, capital, or industry. In the United States an income tax was first imposed in 1861, which after various modifications ceased June 30, 1870. The entire amount realized in 10 years was nearly $365,000,000, affecting about 250,000 persons. An income tax was again imposed in 1894, as a feature of the tariff act of that year. But this feature of the act was declared unconstitutional by a decision of the United States Supreme Court in 1895. An income tax has been levied yearly in Great Britain since 1799.

Incubation, in pathology, the maturation of morbific matter introduced into the system.

Artificial incubation is the hatching of eggs by means of heat artificially applied. The Egyptians have long done so successfully by means of heated ovens. Some years ago it was calculated that a hundred million chickens were thus annually produced in Egypt. In late years the hatching of eggs by incubation has become a lucrative business in many sections of the United States.

Incunabula, a term applied by bibliographers to editions of books printed during the early period of the art, and is generally limited to works which appeared previous to 1500.

Indemnity, an act designed to relieve the government or any of its officers from penalties when they have been compelled by exceptional circum-

stances to omit the performance of some duty, or to violate or even to suspend some law.

Indenture, a deed entered into between two or more parties, and so called because duplicates of every deed between two or more parties were once written on one skin, which was cut in half, with a jagged or indented edge; so that they were seen to belong to one another.

Index, a compilation of figured or numbered entries for purposes of reference. In mathematics, the index of a radical is a number written over the radical sign to denote the degree of the root to be extracted. An index is generally a whole number greater than 2. When the square root is indicated, the index is generally omitted, being understood.

Index Prohibitorius, a list of books which may not be read by Roman Catholics, cleric or lay, on pain of excommunication. The Council of Constance (1415) ordered the books of Huss to be burnt, and Leo X. condemned the writings of Luther. In the 17th session (Feb. 26, 1562) of the Council of Trent, a commission was appointed to compile an Index of Prohibited Books and a code of general rules on the subject. The first Index was published (1564) in the pontificate of Pius IV., and various editions have since appeared.

India, an extensive region of Southern Asia, celebrated during many ages for its riches and valuable natural productions, its beautiful manufactures and costly merchandise, the magnificence of its sovereigns, and the early civilization of its people. Hither India is the central peninsula of Southern Asia; its length may be stated approximately at 1,900 miles, and its width at 1,600 miles, with an area of about 1,300,000 square miles. India, from its great extent of sea-board, is essentially a maritime country. Farther India is the usual name given to the S. E. peninsula of Asia.

The sub-Himalayan countries form an elevated tract lying between the chief ridge of the Himalayas and the lower elevations which adjoin the plains of the Ganges and Indus. The plain of the Ganges is a vast alluvial flat, extending from the Bay of Bengal to the Punjab. Scattered over the agricultural districts, and massed in the great cities and towns, there are not less than 100,000,000 people. The Punjab occupies the N. portion. S. of the Punjab, and parallel with the river, the great sandy desert of the Indus extends for nearly 500 miles. The horse and camel alone can cross this desert, which is described in Hindu geography as "the region of death." The highlands of Northern Hindustan extend from the Vindhya Mountains as a base to the border of the Thur. The peninsular portion of India, S. of the Vindhya Mountains, is called by the natives the Deccan. The most remarkable geographical feature of the area is a central table-land — vast plateau — rising from 2,000 to 3,000 feet above the sea, and inclosed on all sides by lofty mountains, between which and the sea, on the E. and W., are narrow strips of low, flat country, divided into several districts. From the low country on the coast to the central table-land the mountains rise abruptly in a succession of gigantic terraces or steps, and hence the name of "Ghauts."

The census of 1901 showed a total population of 294,266,701. Of these about 661,000 were not born in India. The British-born are given at over 100,000. The population of the principal cities, according to the census of 1901, had either decreased since 1891 or increased only slightly. Thus Bombay, which returned in 1891 a population of 821,764, had in 1901 barely 777,000.

The vegetation of India is as varied as its soil and climate, passing from the flora of a tropical to that of an alpine region. The groves of palm that border the coast, and, in the interior, the umbrageous mango topes, are striking features of Indian scenery. Rice is the chief article of food in India, and is produced in all parts of the country in which irrigation is practised. Wheat, maize, opium, coffee, tea, cinchona, cotton, jute, and india rubber are among the cultivated products.

Hindustan proper may be said to have three well-marked seasons, — the cool, the hot, and the rainy. The cool months are November, December, January, and a part of February; the dry hot weather precedes, and the moist hot weather follows the periodical

rains. The climate of South India is greatly regulated by the monsoons. The central table-land is cool, dry, and healthy.

Two of the most striking peculiarities of the social condition of the Hindus are the iron institution of caste and the village system. The latter is very simple. A village in Hindustan does not mean a collection of houses at a particular spot, but corresponds rather to what is called a township in America. It is a district embracing an area of some hundreds or thousands of acres of land, and is under the administration of native functionaries, the principal of whom is the potail ("head inhabitant"), a kind of chief magistrate, who superintends the affairs of the community, settles disputes, attends to the police and the collection of taxes. Under this simple form of municipal government the inhabitants of the country have lived from time immemorial.

Hindu theology is contained in the ancient books of the Vedas, which inculcate the worship of the deities, Brahma, Vishnu, and Siva, the transmigration of souls, and their final absorption into the deity. Buddhism had also its origin in Hindustan, and Mohammedanism now extensively prevails. Philosophy, science, and the arts were cultivated from an early period by the Hindus, especially the domestic arts of weaving, dyeing, and working in metals and gems. They have never greatly excelled in music or painting; but in architecture they have arrived at considerable eminence. From the earliest records of history the nations of the Western World derived their merchandise from India.

In 1625 the first English settlement was made by a company of merchants in a small spot of the Coromandel coast of 5 square miles, transferred in 1653 to Madras. From the year 1750, when the warlike acquisition of territory commenced under Lord Clive, a succession of conquests, almost forced upon the British contrary to their inclinations, have now placed nearly all India under their sway. There is a free press and equal laws to all subjects. The revenue is derived almost entirely from a land tax. The rent assessments are very high, and bear hard on the cultivators of the soil; yet the condition of the population under British rule is greatly ameliorated from that under the unsteady governments and the incessant wars and conquests of previous periods of their history. India was one of the earliest fields of Christian missions. For a time the East India Company adopted the policy of excluding missionaries altogether from their territories; but since the beginning of the 19th century, when these restrictions were withdrawn, a great work has been entered on, in which all denominations are represented.

India, British, the name given to those parts of Hither and Farther India placed under the administration of the viceroy or governor-general of India. It does not include Ceylon, which, though a British possession, has its government entirely separate from that of Hindustan, but it extends along the E. coast of the Bay of Bengal, and includes a part of Farther India, or Indo-China. Pop. (1901) 231,085,132. The home government of India is vested in a secretary of state, who is a member of the English cabinet.

Indiana, a State in the North Central Division of the North American Union; bounded by Ohio, Kentucky, Illinois, Michigan, and Lake Michigan; admitted to the Union Dec. 11, 1816; number of counties, 92; capital, Indianapolis; area, 36,350 square miles; pop. (1890) 2,192,404; (1900) 2,516,462.

The surface of the State is generally level or undulating, ranging from 300 to 1,250 feet in altitude. The hills of the Ohio and Wabash river valleys inclose richly wooded bottom lands. The W. portion of the State is mostly prairie lands, interspersed with lakes, woodlands, and swamps.

The Wyandotte cave in Crawford county, is second only to the Mammoth cave in size. The coal measures cover an area of 6,500 square miles, with a depth of 600 to 800 feet, and present 12 to 14 distinct seams, ranging from 1 to 11 feet in thickness. The State is rich in mineral resources, especially in coal. Block coal, used in pig iron smelting, is mined in blocks weighing upward of a ton each, and cannel coal and peat are found in abundance. Quarries of building stones cover an area of 200 square miles, adjoining the coal measures. The chief mineral pro-

ductions include petroleum, mineral waters, clay, natural gas, sandstone, and limestone. The State ranks second in the United States in its production of natural gas and limestone, third in coal, and fourth in petroleum. Other mineral productions were bog iron, antimony, bismuth, cobalt, ganister, lead, manganese, sulphuret of silver, and salt.

The soil varies from a deep black sand to clay loam, and is generally fertile. The climate is changeable and marked by extremes. Nearly one-eighth of the area is open prairie, and well adapted to agriculture. All farm and garden vegetables and fruits are grown, and wheat, corn, oats, tobacco, hemp, flax, maple sugar, maple syrup, sorghum molasses, honey, beeswax, cider, vinegar, hops, and wine are among the varied products. Manufacturing also flourishes, and the financial interests of the State are sound and extensive.

According to recent reports the school population is 668,100, and the enrollment in public schools, 556,651. For higher education there are numerous high and normal schools and colleges, among the latter being Indiana University, at Bloomington; Purdue University, at Lafayette, De Pauw University, at Greencastle, and many others.

The governor is elected for a term of four years, and receives a salary of $5,000 per annum. Legislative sessions are held biennially, and are limited to 60 days each. The legislature has 50 members in the Senate, and 100 in the House. There are 13 representatives in Congress.

Indiana was part of the territory ceded to Great Britain, in 1763, by France. Early settlements had been made by the French at Corydon and Vincennes in 1702. In 1813 Corydon was made the capital, in 1816 Indiana was admitted to the Union, and in 1825 the capital was removed to Indianapolis. The present constitution was adopted in 1851, and in 1853 a free banking law was passed.

Indiana, The, a war vessel of the United States navy. She is a first-class, twin-screw steel battleship.

Indianapolis, a city, capital of the State of Indiana. It is the geographical center of the State, and on the edge of a great natural gas region; area, 28 square miles; pop. (1890) 105,436; (1900) 169,164.

The most prominent public building is the State House, completed in 1887, occupying two squares, and costing $2,000,000. The Court House, erected in 1876 at a cost of $1,200,000, is another imposing structure. The principal manufactures include steam engines, machinery, foundry supplies and products, steel, glass, flour, tin plate, tile, bicycles, chain, paper, and pumps. There are eight grain elevators with a capacity of 1,000,000 bushels. The stockyard interests are important.

Indianapolis was first settled in 1819, became the seat of the State government in 1825, was incorporated as a town in 1836, and received its city charter in 1847. In 1891 it received a new charter prepared by representative citizens.

Indiana University, a coeducational non-sectarian institution at Bloomington, Ind.; founded in 1820.

Indian Civil Service, a branch of England's administration in India which includes the civil and judicial administration, the medical service, the forest department, and officers of the staff corps in civil employ.

Indian Mutiny. The British occupation of India had been largely aided by native troops, which, from 1748, it was the custom to enroll under British officers in the service of the East India Company. At the close of Lord Dalhousie's sway, when the whole of India seemed to have been reduced either directly or indirectly under British rule, an extensive revolt of this trusted force occurred, and it seemed for a moment as if the fall of British power in India would be more sudden than its rise.

It happened that at this time the Enfield rifle was first introduced into the Bengal army. This rifle was loaded with a greased cartridge, the end of which required to be bitten off. A report got abroad that the cartridges were to be soaked in cow and pork fat. The prejudices of Hindus and Mohammedans were thus equally struck at, and as this rumor, however raised, rapidly spread, the excited imagination of the Sepoys conceived a conspiracy on the part of the government to convert them forcibly to Christian-

ity, by compelling them to violate the laws of their own religion. While this grievance was ostensibly removed, it was not so in fact, and English officials continued to show characteristic English contempt for a subject people whom they supposed to be at their mercy. At length the native troops revolted. The 28th, 54th, and 74th native infantry, with a battery of artillery, occupied cantonments 2 miles N. of Delhi, the city itself still nominally belonging to the King of Delhi. The advance guard of the mutineers reached Delhi on May 11, and at once entered the city, where they were assisted by the king's servants in massacring the Europeans. The troops cantoned outside the city in the meantime joined the main body of the mutineers, and assisted in massacring their European officers. A momentary stand was made in the Flagstaff Tower; but the last remains of the Sepoys proving unfaithful, the few Europeans collected there had to disperse and flee for their lives. About 50 Europeans had taken refuge in the palace, and placed themselves under the protection of the king. These after some days were murdered.

The war was substantially closed by June, 1858, though the complete pacification of Oudh was not effected till the end of the year. The exasperated feelings caused by the savage conduct of the mutineers were freely indulged in their punishment. Many were blown from the mouths of guns, a punishment several times before inflicted by the British in India; others expiated their crimes on the scaffold; but finally a royal proclamation offered amnesty to all who had not committed crimes, declared that none should be favored or molested on account of religion, and declared the intention of her majesty in assuming the government of India to respect the rights, dignity, and honor of native princes as her own, and to promote the social advancement of India by internal peace and good government. In some respects the suppression of the Mutiny was more savage and barbarous than the outbreak itself.

Indian Ocean, a body of water bounded on the W. by Africa, on the N. by Asia, on the E. by Australia and the Australasian Islands. It is estimated to have an area of 17,320,500 square miles.

The mean depth of the Indian Ocean is estimated at about 2,300 fathoms, or slightly greater than that of the Atlantic. The greatest depths are in the E. part to the S. of the equator, where it is estimated that there are fully 50,000 square miles with a depth of over 3,000 fathoms.

The currents of the Indian Ocean are less constant than in the other great oceans, and are largely controlled by the direction and strength of the monsoons. Some of the most characteristic coral atolls and islands are to be found toward the central part of the Indian Ocean. Almost all the tropical shores are skirted by fringing and barrier reefs.

Indians, American, the original inhabitants of the Western hemisphere. The name Indian was bestowed by Columbus upon the copper-colored natives who greeted him when he first set foot on the soil of the New World, which he at that time supposed constituted a portion of India. The name has remained, and with the prefix "American" includes all the native races inhabiting the region from Mexico to the Arctic Ocean on the N., and to Terra del Fuego on the S.

All the American Indians, savage or semi-civilized, possess the same characteristics. All have the same long, lank hair, black as a raven's wing, brown or copper-colored complexion varying to almost white, heavy brows, dull sleepy eyes, seldom expressing any emotion, full and compressed lips, salient and dilated nose. The head is square or rounded, flattened or vertical occiput, with high cheek bones. In demeanor the Indian is haughty, taciturn and stoical. He is cunning, brave and ferocious in war and the most dreaded of all enemies. In temperament he is poetic and imaginative, and many of the chiefs have been noted for their eloquence and the beauty of their diction.

Wars.— The early history of this country is full of accounts of wars with the savages who have always resisted to their utmost the encroachments of the "white faces." The most important of these conflicts were The Pequot War (1637); King Philip's War (1675); Wars of the Six Na-

tions; Black Hawk War (1832); and the Seminole War (1835–1839).

During recent years there have been a few conflicts with different tribes, but none of great importance.

The entire Indian population of the United States in 1900, according to the annual reports of Indian agents received by the Commissioner of Indian Affairs, was 297,905. Those who could read numbered 42,597, and 53,314 could carry on an ordinary conversation in English. Citizen's dress was worn by 95,679, while a mixture of Indian and civilized clothing was worn by 31,923. The Indians are governed through the medium of tribal legislatures and executives, supervised by the United States government, except where local agencies render this impracticable. The annual appropriation by Congress for the Indian service is usually about $9,000,000. This sum is disbursed for current and continued expenses, treaty obligations, miscellaneous support and gratuities, the support of schools, payment for lands, interest on trust funds and incidental expenses. It costs about $2,000,000 a year to maintain the Indian schools and about $3,000,000 to fulfill the treaty obligations.

Indians, American, Origin of. The general impression is that the American Indians are of Mongolian origin. Their traditions and their languages indicate Asiatic kinship, and immigration from that continent. Their character, manners and customs also point to Asia, while their civilization, such as it was, recalled Asiatic development. Scribner's Magazine many years ago published an article by a gentleman who had traveled in Siberia and South America, calling attention to the close resemblance between the language of certain South American Indians and certain Siberian tribes. Photographs of Siberian women might easily pass for pictures of American squaws. The Indians of New England seem to have differed considerably from those of the far West, and to have been inferior to the latter in physique and courage, and it is evident that divergences of race grew up in the course of centuries, if not of thousands of years, but similar distinctions may be noted between branches of a common race on the older continent. The American Indians were in all probability the Mound-builders. Mound-building has been going on, according to high Cherokee authority, since the whites came to America. There has been no disappearance of a mysterious race.

The Indians, after about three centuries of almost continuous conflict, have been finally brought under regular authority. They have given up even their more barbarous ceremonies. A few days ago I read a narrative of a so-called "sun-dance," as innocent and harmless as a cake-walk, very different from the hideous affair I witnessed near the banks of the Missouri in 1867, when young braves danced around a pole to which they were fastened by thongs of buffalo hide, passed through the tendons of their backs. They danced on, suffering unutterable torture until the thongs broke through the flesh, and left them free. Such was the real sun-dance. In all probability it will never again be celebrated.

The Indians as a separate stock will doubtless disappear. In Mexico and Central and South America they have largely absorbed their conquerors. In the United States the white man has usually driven the Indian before him, but in the Indian Territory and other parts of the West the races are gradually uniting, and the comparatively small number of Indians will probably be merged in the whites.

The Indian, along with his savage traits, has some excellent qualities, and if the truth of history were frankly told it would be found that he seldom hurt anyone without strong provocation. The American government owes it to its own conscience and honor to see that the Indian is provided for and protected, now that he has been deprived by the advance of civilization of the means of living which were to him both nature and religion.

HENRY MANN.

Indian Summer, the name given to a period of mild summer weather which generally occurs toward the end of autumn in the United States.

Indian Territory, an unorganized territory in the South Central Division of the North American Union: bounded by Kansas, Arkansas, Louisiana, Texas, and Oklahoma; set apart

by Congress for Indian reservations in 1834; and containing the Cherokee, Chickasaw, Choctaw, Creek and Seminole nations and several reservations. Area, 31,000 square miles. Pop. (1890) 180,182; (1900) 391,960.

Coal is the principal mineral mined. There are also valuable deposits of gold and silver, but the secret of their location is jealously guarded by the Indians. The soil is generally very fertile and in many of the reservations agriculture is well developed. The cotton crop in 1900 amounted to 119,939 bales.

In 1900 there were reported by the United States census, 789 manufacturing establishments, employing $2,624,265 capital and 1,714 persons; and having an annual output valued at $3,892,181. In value of manufacture the Chickasaw nation leads, with $1,536,637. The principal articles of manufacture include flour and grist, cottonseed oil, cotton goods, lumber and timber products, saddlery and harness, artificial ice, clothing, millinery, railroad cars, boots, and shoes.

There are no general school statistics, but the Five Nations, the United States government, and religious societies support over 400 schools. There were in 1899, 4 public high and 10 private secondary schools, the Indian University at Bacone, and Henry Kendall College at Muscogee.

Each of the five great nations is allowed self-government under officers chosen by popular election. Each nation maintains educational institutions in addition to those supported by the United States government and by religious organizations. The United States Treasury holds trust funds for the Territory, exceeding $8,000,000, the interest of which is paid regularly to the national treasuries.

The Territory was included in the Louisiana Purchase of 1803, and in 1832 was set aside by the United States government as a permanent home for Indian tribes E. of the Mississippi. In 1834 Congress set aside reservations for the Creek, Cherokees, Chickasaws, and Choctaws, and later these were followed by the Seminoles, Sacs, Foxes, Comanches, Modocs, Nez-Perces, and numerous smaller tribes. In 1866 the Creeks ceded the W. part of their territory to the United States, and the Seminoles all of theirs, and in 1890 this land, together with what was known as the "public lands" was erected into the Territory of Oklahoma. Since then several portions of the reservation have been opened for settlement.

Indictment, in law, a written accusation of one or more persons of a crime or misdemeanor, preferred to and presented on oath by a grand jury. Properly, an indictment is not so called till it has been found a true bill by the grand jury, up to which time it is called a bill.

Indies, the name given by Columbus to his first discoveries in America, which he thought at the time were a part of India. These lands were afterward termed the West Indies, which name the islands still bear.

Indies, East, a collective name vaguely applied to Hindustan, Farther India, and the Indian Archipelago.

Indigestion, dyspepsia, difficulty of digestion, with slowness and long retention of the food in the stomach, great distress after eating, uneasiness at the pit of the stomach, fetid eructations, and unaltered ingesta in the stools. Digestion is much retarded, deficiency and abnormality of the gastric juice being a common occurrence. Gluttony, drunkenness, overanxiety, and sedentary habits are the chief causes.

Indigo, a vegetable dyestuff, yielding a beautiful and very durable blue dye. It is obtained from tropical and sub-tropical plants. Indigo is tasteless, odorless, and of an intense blue color, passing into purple. It is insoluble in water.

Indigo Bird, a North American bird of the finch family, a native of the United States, as far N. as the Missouri, which it visits in summer, and of Central America, where it spends the winter. It is about 5½ inches in length, of a beautiful blue color, variously tinged and shaded. It frequents open places on the edges of woods, and has a very sweet song.

Indra, a Hindu deity worshiped in the Vedic period, but popular also in the Epic and Puranic periods. He is sometimes represented with four arms and hands, with two of which he holds

a lance, the third wields a thunderbolt, and the fourth is empty; at other times as a white man sitting on an elephant, having a thunderbolt in his right hand, and a bow in his left. When painted, he is covered with eyes.

Induced Currents, electric currents developed in conductors in proximity to other conductors traversed by intermittent or fluctuating currents; also, electric currents developed in conductors moving in the field of a magnet, or in conductors within the field of a moving magnet.

Induction, the act of inducting or bringing in; introduction; a bringing in or putting into an office. In electricity, the action which electrified bodies exert at a distance on bodies in a natural state. In magnetism, the action which magnetized bodies exert at a distance on bodies in a natural state.

Induction Coil, in electrical machinery, a contrivance which consists essentially of two separate coils of insulated wire wound round a soft iron core.

Indulgence, in Roman Catholic theology, a remission of the punishment which is still due to sin after sacramental absolution, the remission being valid in the court of conscience and before God, and being made by an application of the treasure of the Church on the part of a lawful superior. Indulgence may be either (1) Plenary, remitting the whole, or (2) Partial, remitting a portion of the temporal punishment due to sin. The former are granted by the Pope to the whole Church; the latter by primates, metropolitans, and bishops within their respective jurisdiction. The Council of Trent ordains that indulgences must be given everywhere gratis.

Indulgence, Declaration of, the proclamation of James II. of England, in 1687, by which he promised to suspend all laws which tended to force the consciences of his subjects. His real aim was, of course, merely to relieve the Roman Catholics; hence the declaration was very unpopular. Two similar indulgences in English history were those issued by Charles II. in 1662 and 1672, both of which were equally unpleasing to the dissenters alike in England and Scotland, who declined to share their toleration with their Roman Catholic fellow-subjects.

Indus, one of the great rivers of Asia, which rises in Tibet, on the N. of the mountain Kaims, celebrated in the mythology of the Hindus. The value of the Indus as a route of traffic is less than that of most other streams of equal magnitude. The Indus abounds with fish of excellent quality, and is infested by crocodiles. The alluvium brought down by the stream has been calculated to be sufficient for an annual formation 42 miles long, 27 miles broad, and 40 feet deep.

Industrial and Provident Societies, societies that carry on some trade for the mutual benefit of the members.

Industrial Schools, a term used very variously, sometimes designating ordinary elementary schools, in which agricultural or some other industrial art is taught to boys during one portion of the school day, or in which sewing, cooking, washing, and ironing are taught to girls.

Inertia, the incapability of matter to change its state, whether that be one of motion or rest. If in motion, it will continue so forever unless some counteractive force, like that of gravity act upon it. If at rest, it will ever remain so unless a counteractive impulse set it in motion.

Infallibility, a quality or state of freedom or exemption from error. It is an attribute claimed for the head of the Roman Catholic Church.

Infant, in law, a person under the age of 21 years.

Infanta, the title given to princesses of the Spanish and Portuguese "blood royal," other than the eldest daughter when heiress apparent to the throne; as, the Infanta Dona Luisa.

Infanta Maria Teresa, The, a Spanish battleship, one of Admiral Cervera's fleet; captured in the fight at Santiago de Cuba in 1898 while attempting to run the blockade. She was sent to Norfolk, Va., for repairs and was wrecked on Cat Island during a storm.

Infante, the title given in Spain and Portugal to the princes of the royal family, the corresponding title of Infanta being given to the princesses.

Infanticide, the murder of an infant born alive; the killing of a

young or newly-born child. The practice of destroying a portion of the offspring — in the majority of cases, the female children — among certain nations or tribes, appeared in the earliest times, and still lingers among some undeveloped races. In Sparta it was used as one of the means of securing what Spencer calls the "survival of the fittest," and was defended by Plato and Aristotle.

The murder by high caste Rajpoots in India of their female children, once most extensive, arose from pride of caste. Public opinion requiring the father to expend an extravagant sum on his daughter's marriage and dowry if she lived, he considered it more economical to have her put to death in infancy. Major Walker induced them to give up the unnatural practice, but on his return to Europe it revived. To British remonstrance the answer was, "Pay our daughters' marriage portions, and they shall live." The government took a different method — it imposed on a father sanctioning the murder of his infant child an enormous fine, and the practice soon ceased. Infanticide is a common practice in China, towers existing near the towns where parents may abandon new-born infants to die.

Infantry, foot soldiers armed with rifle and bayonet.

Infant Schools, a means of educating very young children. Oberlin may be regarded as the founder of infant schools. The most successful system of educating quite young children is the kindergarten.

Infection, a term which has been vaguely used for the contamination of the human body by morbific particles, whether there has or has not been contact with a person similarly affected, but more specifically applied to the contamination of the atmosphere or water by such agency, and through them of the human body.

Infidel, from the Christian standpoint, one who does not believe in the Christian faith. From the standpoint of the Mohammedan or other non-Christian faiths, an infidel is one who does not believe in the religion of the person using the term "infidel."

Infinite, not finite; having no bounds or limits; without limit; unbounded; boundless; not limited or circumscribed; applied to time, space, the Supreme Being or His attributes; as, The goodness of God is infinite.

Inflammation, a morbid state of the whole or any part of the system, characterized by heat, redness, and pain, owing to a stoppage of function in the microscopic elements of the involved tissues, or to changes in the blood-vessels and blood, and exudation of liquor sanguinis, with permeation of white blood corpuscles, without rupture of the vessels, into the contiguous parts, or to altered nutrition of the tissue.

Influenza, a specific catarrhal inflammation of the mucous membranes of the air passages, contagious, and often epidemic.

Information, in criminal law, a substitute for an ordinary indictment filed by the prosecuting attorney in certain cases of misdemeanor. Also, a written statement or declaration made usually on oath before a magistrate, previous to the issuing of a summons or warrant against a person charged with a crime, or an offense punishable summarily.

Infusion, a pouring in or into. That which is infused or introduced; suggestion. In pharmacy, a solution of some of the principles of vegetables, generally in water, used as a medicine, but sometimes in other vehicles.

Infusoria, the name first given by Otto Frederick Muller to the mostly microscopic animalcula developed in organic infusions. A drop of water from a weedy or other pool or ditch, viewed by the microscope, contains them in countless numbers. They have neither vessels nor nerves, but possess internal spherical cavities. They move by means of cilia or variable processes formed of the substance of the body, true feet being absent. They occur everywhere, in salt as well as in fresh water.

Ingalls, John James, an American lawyer; born in Middletown, Mass., Dec. 29, 1833; was graduated at Williams College in 1855 and admitted to the bar in 1857; settled in Atchison, Kan., in 1858; became secretary of the Kansas Senate in 1861; was elected a member of that body in 1862; and was United States Senator

in 1873–1891, during which time he attained wide reputation as a public speaker. He was also president pro tem. of the Senate during the last three years of his service. He died in Las Vegas, New Mexico, Aug. 16, 1900.

Ingalls, Rufus, an American soldier; born in 1820. He was graduated at the United States Military Academy in 1843, fought in the Mexican War and in the Civil War, served with distinction in the Army of the Potomac. He became quartermaster-general in 1882 and died in 1893.

Ingelow, Jean, an English poet and story-writer; born in Boston, Lincolnshire, in 1820. Her first published work appeared anonymously in 1850, but not till the publication of "Poems" in 1863 did Miss Ingelow become famous. This volume won the enthusiastic praise of critics and the instant approval of the public and has passed through many editions. She wrote a great many stories and novels. Miss Ingelow lived in London, engaged in benevolent and charitable works, and died in Kensington, July 20, 1897. Her works have been even more popular in the United States than in England.

Ingersoll, Charles Jared, an American author; born in Philadelphia, Pa., Oct. 3, 1782; son of Jared Ingersoll, Jr.; was a member of Congress in 1813–1815 and 1841–1847; and United States district attorney in 1815–1829. He died in Philadelphia, Pa., May 14, 1862.

Ingersoll, Ernest, an American naturalist; born in Monroe, Mich., March 13, 1852; was educated at Oberlin College and the Harvard Museum of Comparative Zoölogy; employed on the Hayden Survey and the United States Fish Commission; later was engaged as a journalist in Montreal.

Ingersoll, Jared, an American jurist; born in Milford, Conn., in 1722; was graduated at Yale College in 1742; commissioned stamp-agent for Connecticut in 1765. When the people arose against the law Ingersoll attempted to persuade the citizens of New Haven to accept it, but was compelled to resign his office. He was made admiralty judge of the Middle District in 1770. He was the author of a valuable pamphlet on the "Stamp Act" (1766). He died in New Haven, Conn., in August, 1781.

Ingersoll, Jared, an American jurist; born in Connecticut, in 1749; son of Jared Ingersoll; was graduated at Yale College in 1766; attained eminence in his profession in Philadelphia; was a member of Congress in 1780–1781, a delegate to the Convention which drew up the Federal Constitution in 1787; an unsuccessful candidate for Vice-President of the United States in 1812; and twice attorney-general of Pennsylvania. He died in Philadelphia, Pa., Oct. 31, 1822.

Ingersoll, Robert Green, an American lawyer; born in Dresden, N. Y., Aug. 11, 1833; was admitted to the bar in 1854; soon became distinguished in the courts and in Democratic politics as an orator; recruited the 11th Illinois Cavalry in 1862, and entered the army as its colonel. On Nov. 28, 1862, while trying with a force of 600 men to intercept a Confederate raiding body he was captured by a force of 10,000 men, but was soon paroled and given command of a camp in St. Louis. He soon afterward resigned. After the war he became a Republican; was made attorney-general of Illinois in 1866; was a delegate to the Republican National Convention in 1876 and there nominated for president, James G. Blaine, whom he termed "the plumed knight." He was prominent in politics for several years, and had he not given strong expression to his views as an agnostic he would doubtless have been honored with high offices. He settled in New York city in 1882 and practised law there till his death. He died in Dobbs Ferry, N. Y., July 21, 1899.

Ingot, a cast mass of steel from the crucible; a cast mass of gold or silver, more or less pure, for assaying; a cast block of gold, silver, or a properly proportioned alloy of either, for coinage, or for working into other forms, as watch cases, etc.

Ingraham, Joseph Holt, an American author; born in Portland, Me., in 1809; received a collegiate education; was ordained a Protestant Episcopal clergyman; became widely known through his writings. He died in Holly Springs, Miss., in December, 1860.

Ingraham, Prentiss, an American author; born in Adams co., Miss., Dec. 22, 1843; received an academic education; served in the Civil War in the Confederate army, and was wounded and taken prisoner at Port Hudson. After the war he traveled extensively in the Orient, and began his literary career in 1870.

Ingres, Jean Dominique - Auguste, a French historical painter; born in Montauban, in 1781. Ingres occupies a middle place between the classical and romantic schools, and is chiefly remarkable for correct design, ideal composition, and sober painting. He died in 1867.

Ingrians, a Northern European people, now in process of absorption by Russia. They are said to be of Finnish stock and lost their independence in the 14th century or perhaps earlier.

Inhalations, a method of applying remedial agents to the respiratory tract, whereby these substances in a gaseous or atomized form are brought in contact with the mucous membrane of the nose, mouth, throat, windpipe, and air tubes and air cells of the lungs.

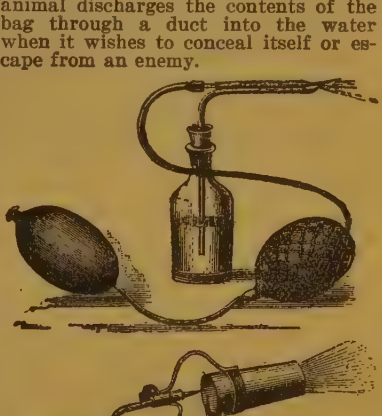
Inhaling Tube, a device for strengthening the breathing apparatus of consumptives and those afflicted with weak lungs.

Inia, a toothed fresh water Cetacean, not unlike a dolphin. It is found in some of the upper tributaries of the Amazon, and in the lakes near the Cordilleras. It measures about eight feet in length, has a long cylindrical snout with stiff hairs, and a very slight dorsal fin.

Injunction, a writ or process granted by a court of equity, and in some cases under statutes by a court of law, whereby a party is required to do, or to refrain from doing, certain acts. In the United States, the writ of injunction, as resorted to in labor disputes, has occasioned much controversy. Injunctions issued against strikers were alleged to "convert innocent acts into a crime."

Ink, a liquor or pigment used for writing or printing. It varies much in the details of its composition; all ordinary writing inks owe their properties to the presence of gellate or tannate of iron held in suspension by means of gum. Sympathetic inks were formerly used in secret correspondence, but they have now ceased to be thus employed, as none of them will withstand the action of a strong heat. The characters written by these inks do not become visible until they are treated with some other solution or exposed to the action of heat.

Inkbag, a gland found in the Cephalopoda. It is tough and fibrous, with a thin outer coat. The animal discharges the contents of the bag through a duct into the water when it wishes to conceal itself or escape from an enemy.



INHALING TUBES.

Inkermann, a village of Russia, in the S. of the Crimea. During the Crimean war, the Russians, nearly 50,000 strong, assailed the weakest part of the English position facing the harbor of Balaklava and the caverns of Inkermann, Nov. 5, 1854. The French

came to the support of the English, and the Russians were driven back with great slaughter.

Inlaying, the art of decorating flat surfaces by the insertion of materials differing from the ground or body in which they are inlaid, in color, texture, or other qualities.

Inn, a river of Germany, the most important Alpine affluent of the Danube.

Inn, a house where travelers are furnished, for the profit of the provider, with everything they have occasion for while on their journey.

Inness, George, an American painter; born in Newburg, N. Y., May 1, 1825; studied painting in New York and Europe; resided in Italy in 1871–1875. His pictures are noted for the accuracy with which they represent the American climate and the aspects of American scenery.

Innocent, the name of several Popes.

Innocent III. (Lothario Conti), one of the most eminent of the Roman pontiffs; born in Anagni, in 1161. He succeeded Celestine III. in 1198. His first care was to recover and secure such portion of the domains of the Holy See as were in the hands of usurpers. He applied himself earnestly to the improvement of the administration of justice and expected that all great questions, civil and ecclesiastical, should be decided by himself. He put France under an interdict, because Philip Augustus divorced his queen, Ingeburga. When John, King of England, refused to confirm the election of Stephen Langton, as archbishop of Canterbury, Innocent laid the kingdom under a ban and, in 1212, formally deposed John, and instigated the King of France to attack England. John was obliged to submit, resigned his territories to Rome, and received them as a papal fief. In 1210 the Pope excommunicated the Emperor Otho IV. Innocent abolished the Roman Senate and Consulate, and made himself absolute in his estates, which extended from the Adriatic to the Mediterranean. Innocent enforced purity of morals in the clergy and was himself irreproachable in private life. In 1215 he convoked the fourth general council of the Lateran. He died in 1216.

Innocents' Day, the English name for the feast celebrated on Dec. 28, to commemorate the massacre of the children of Bethlehem by Herod, in the hope of killing Jesus. In the Greek Church the feast is celebrated on Dec. 29, and is known as the Feast of the 14,000 Holy Children.

Innsbruck, the capital of Tyrol, 109 miles from Munich. It is a beautiful place. The Franciscan Church, or Hofkirche, built in the Renaissance style in 1553–1563, contains a beautiful and elaborate monument to the Emperor Maximilian I. In the same church are monuments to Andreas Hofer and his comrades Speckbacher and Haspinger, and to the Tyrolese who fell in the wars against France (1796–1809). Pop. (1900) est. 40,000, including suburbs.

Innuendo, an indirect or oblique hint or intimation; an insinuation. Also a law term, most used in declarations, and other pleadings, and the office of this word is only to declare and ascertain the person or thing, which was named uncertain before.

Innuit, the native name of the people occupying the entire coast line of Alaska, with the outlying islands along the Arctic coast to Bering Strait, S. to the Alaska Peninsula, E. and N. along the Pacific coast to Mount St. Elias, with the exception of a small territory on Cook's Inlet and at the mouth of Copper river, where the Tinneh from the interior have forced their way to the coast. The Innuit of Alaska are a much finer race physically than the Eskimo of Greenland and Lapland. They are tall and muscular, many of them being 6 feet and over in height. They have small black eyes, high cheek bones, large mouths, thick lips, coarse brown hair, and fresh yellow complexions. Occupying the coast line, they are bold navigators and skilled fishermen and sea hunters. With the exception of those in Southern Alaska, they are barbarians, never having had civilizing, education, or religious advantages.

Inoculation, the act, art or operation of communicating a disease to the bodily frame by introducing, by one or more punctures in the skin, or other-

wise, the specific poison by which it is produced; also the introduction in such a manner of variolous matter into the system.

Inorganic Chemistry, the chemistry of inorganic or unorganized bodies. The discoveries of the past few years have rendered it impossible to say where inorganic chemistry ends and where organic chemistry begins. Its aim is to examine into the general laws or rules which regulate the formation of such metallic bodies, and to determine the action of one upon another.

Inouye, Kaoru, Count, a Japanese statesman; born in Chohu in 1839. He made a journey to Europe in early life and upon his return urged the adoption of Western civilization upon Japan. He entered office in 1868 and was steadily promoted.

Inquest, in legal proceedings, most commonly the finding of the court or jury in a civil case, when the defendant does not appear on the trial. Also the investigation made by the coroner, with the aid of a jury, as to the cause of a sudden or violent death.

Inquisition, in the history of the Roman Catholic Church, a tribunal for searching out, inquiring into, and condemning offenses against the canon law, especially heresy. It was resolved on at a synod held at Toulouse, in 1229, under Gregory IX., and was formally established by him in 1233. The synod ordered that in every parish a priest and several respectable laymen should be appointed to search for heretics, and bring them before the bishops. The tribunal was called the Holy Office, or the Holy Inquisition. Its judges encouraged informers, concealing their names from the person accused, who was urged to make a complete confession. Torture was also used to extract evidence.

In law: (1) A judicial inquiry, investigation, or examination; an inquest. (2) The verdict of a petty jury under a Writ of Inquiry; also where the court requires a particular fact certified, or requires the sheriff to do certain acts in furtherance of its judgment.

Inquisitor, in church history, a person appointed to search out latent heresy. The name first appears in the Theodosian Code, A. D. 382; their search being chiefly directed against the Manichæans. During the crusade against the Albigenses, early in the 13th century, Innocent III. had sent out legates to search out and punish these separatists. These were also called inquisitors.

Insanity, a more or less impaired condition of any or all of the mental functions involving the intellect, emotion, or will. The phenomena of acute intoxication or fever, though analogous in form to those of insanity, being temporary are not usually regarded as symptomatic of mental disease. Comatose conditions, somnambulism, eccentricity, hysteria, transitory brain excitements due to religious or other strong emotions or due to other adequate causes must also be excluded. An insane man is unfit to do his work or manage his affairs, or mingle in the society of his fellow-men. In some cases he is unsafe to himself or to society.

The United States has spent enormous sums to make the best provision possible for the mentally afflicted. In most of the States all citizens, rich and poor alike, have the privilege of using the State asylums. The members of the Society of Friends in the State of Pennsylvania were the first to make philanthropic efforts to provide "hospital" accommodations for the insane. One of the most original asylums in the world in its plan is that at Kankakee, Ill. It has 1,600 patients, and consists of about 20 houses laid out on the two sides of a "street," forming in fact an insane town, all of whose inhabitants resort four times a day to a central dining-room or restaurant for their meals, and where a central ward for the sick, and the administrative buildings are also situated. The proportion of insanity was much greater among the whites than among the negroes, and very much greater among the foreign born than among the native born.

Inscriptions, the name given to records, not of the nature of a book, which are engraved or inscribed on stone, metal, clay, and similar materials, and are in many cases the sole sources of our knowledge of ancient history and of early languages; even when MSS. have been preserved by copyists, inscriptions, which preserve

the original forms of the letters, are of supreme palæographical importance. All the books of the Phœnicians, Sabæans, Etruscans, Babylonians, Assyrians, Numidians, and Iberians have perished; hence a considerable portion of our knowledge of early Oriental history is derived solely from inscriptions.

In Greenland, on the shores of Baffin Bay and Davis Strait, a few genuine Runic inscriptions have been discovered. They probably date from the 11th and 12th centuries, and were doubtless executed by Icelandic colonists or explorers. Records, variously conjectured to be Runic, Punic, Celtiberic, or Numidian, have also been found in the United States, notably on the Dighton Rock in Massachusetts, in the island of Monhegan off the coast of Maine, in the Grave Creek Mound in West Virginia, and elsewhere. They prove, however, on examination, to be either natural markings on the rock, or the half-effaced pictorial records of Indian tribes, or even inscriptions by early European colonists. Very different are the numerous inscriptions on the walls of the palaces and temples in the ruined cities of Yucatan, Honduras, Mexico, and Guatemala. They are written in unknown characters, which appear to constitute a system of hieroglyphic or pictorial writing, akin probably to that of the Aztec MSS., which as yet have been only imperfectly deciphered.

Insecta, insects; a class described as including, formerly, among other animals, the centipedes and spiders. Now these are made distinct classes, and the Insecta confined to those arthropodous animals which have three pairs of legs affixed to the thorax which is distinctly separated from the head and the abdomen. There are compound and simple eyes. In the highest orders there are four wings; in another order, but two; and in several more the wings are rudimentary or totally absent. There is one pair of antennæ. The respiration is by tracheæ. Of the 13 segments, of which a typical insect consists, one constitutes the head, three the thorax, and nine the abdomen. The cutaneous skeleton is composed of chitine. There is generally a more or less complete metamorphosis. Insects exist in all countries. The species existing may be half a million, those known more than 200,000.

Insecticide, one who or that which kills insects. Also a substance or preparation used to kill insects.

Insectivorous, or **Carnivorous Plants,** plants which deviate from the usual plant method of obtaining nutriment from the soil and the air, and feed on insects which they capture by ingenious contrivances. Among the insect-catching plants, one of the most notable is the Venus's fly-trap of the Carolinas, the separated halves of whose leaves close instantly when their surfaces, which bear irritable hairs, are touched. The edges bear 12 to 20 long teeth, which closely interlock, the whole forming a live insect trap. The insect which has caused the closure is held till its soft parts are digested and its juices are absorbed by the leaf, when the latter opens again. A digestive secretion is thrown out, and the closed leaf acts as a true stomach, the work of digestion going on for a week or two. Of a different character are the pitcher-plants, of which there are many kinds in various parts of the world. In these the leaf takes the form of a vase, with a hood at the top by which the entrance may be closed. Water gathers within these hollow leaves. In some species sweet drops are found on the outside of the leaf leading upward to the mouth, within which other honeyed drops appear. On the hood and within the pitcher are stiff hairs or bristles pointing downward, and acting to prevent the prey from crawling out again. The California pitcher-plant has a bright-colored appendage hanging from the opening as a lure to the insect. In some cases the whole leaf is converted into a pitcher. In others the pitcher is formed of the tip of the leaf, being attached to a bare extension of the midrib, which is so bent as to hold it upright. In these small cups insects are caught in large numbers. Some plants form their traps by uniting the bases of opposite leaves. Such is the case with the cup-plant of the Western prairies. Dead insects have been found in these cups, and have probably been digested. The teasel has a similar structure. The bladderworts, of which there are about 160 species,

are aquatic plants which bear curious little sacs, which float in the water. These have open mouths which are lined with bristles, and which, while offering ready entrance to minute insects, prevent their return. Various other adaptations of the leaf, more or less similar to those named, exist, and in many plants there are belts of sticky material on the branches, as in the catchfly and in a species of wiregrass. To what extent these adaptations are useful to the plant is not yet fully settled. When grown in the greenhouse these plants are found to flourish without insect food. But in nature they are usually found in poor soil, and some of them almost without roots. All the facts taken into consideration leave no doubt that many plants really feed on animal food, and thus in a measure depart from the ordinary plant economy and take on a function of the animal kingdom.

Insignia, the name given to all outward marks of power and dignity. The name of insignia is also applied to the decorations worn by the different orders of merit.

Inspiration, in scripture and theology, an extraordinary influence exerted by the Holy Spirit on certain teachers and writers so as to illuminate their understandings, raise and purify their moral natures, and impart a certain divine element to their utterances, whether oral or written. The chief New Testament passages on which the doctrine rests are two. The first is thus rendered in the Authorized Version: "All Scripture [is] given by inspiration of God, and [is] profitable for doctrine," etc. The second is II Pet. i: 21, "For the prophecy came not in old time by the will of man; but holy men of God spake [as they were] moved by the Holy Ghost" (Authorized Version). The "Scriptures" were, of course, the Old Testament.

Installation, the act of installing; the act of investing with an office.

Instinct, a natural blind impulse to certain actions, without having any end in view, without deliberation, and very often without any conception of what we do; instinct is distinguished from reason in that it acts without teaching, either from instruction, or from experience. In general we find that instinct and reason prevail in an animal in the inverse ratio to each other.

Institute, a scientific body; a society or body established under certain rules or regulations for the promotion or furtherance of some particular object; a literary or philosophical society or association.

Institution System, the system of missionary operations which directs its main effort to the founding and maintenance of an institution in place of street preaching.

Institutional Church, The, a Church which aims to reach all classes of people by a system of free pews and active ministration to the wants of its particular community. To quote from the platform of the Open and Institutional Church League: "The open and institutional church aims to save all men, and all of the man by all means, abolishing, so far as possible, the distinction between the religious and secular, and sanctifying all days and all means to the great end of saving the world for Christ. While the open and institutional church is known by its spirit of ministration rather than by any specific methods of expressing that spirit, it stands for open church doors for every day and all the day, free seats, a plurality of Christian workers, the personal activity of all church members, a ministry to all the community through educational, reformatory and philanthropic channels, to the end that men may be won to Christ and His service, that the Church may be brought back to the simplicity and comprehensiveness of its primitive life." Among the various features of the institutional church are a gymnasium, reading room, classes of instruction in sewing, carpentry, music, etc., and a system of volunteer offerings for the support of the work. There are an increasing number of institutional churches throughout the United States.

Instrument, in law, a document or writing, as the means of giving formal expression to an act; a writing expressive of some act, contract, process, or proceeding, as a deed, a contract, a writ, etc. In music, any mechanical contrivance for the production of sound. The musical instruments

employed are divided into the following classes: Stringed, wind, and pulsatile.

Insulator, in electricity, a non-conductor of electricity so placed as to insulate a body. In thermotics, a non-conductor of heat placed so as to prevent the passage of heat to or from a body.

Insurance, the act of insuring against damage or loss; a contract by which a company, in consideration of a sum of money paid, called a premium, becomes bound to indemnify the insured or his representatives against loss by certain risks, as fire, shipwrecks, etc.

Insurrection. The Constitution of the United States, Art. 1, sec. 8, clause 15, gives Congress the power to call forth the militia to suppress insurrections. Acts were passed in 1792, 1795, and 1807, giving the President power to call forth the militia when notified by an associate judge of the Supreme Court or a district judge that the execution of the laws is obstructed, and on application of a Legislature or a governor, when the Legislature could not be convened and to employ also the land and naval forces of the United States. The Whisky Insurrection was directed against the Federal authority and the President employed force to suppress it on notification by the Federal judge. During the "Buckshot War" (1838) between the Whigs and Democrats in Pennsylvania, the governor of that State asked for assistance, but it was refused. The governor of Rhode Island made a similar application during the Dorr Rebellion and the regulars were held ready for action, but their aid proved unnecessary. These last two cases came under Art. 4, sec. 4, of the Federal Constitution, which provides "that the United States shall protect" each State on application of the Legislature, or of the executive (when the Legislature cannot be convened), against domestic violence.

When the Civil War broke out, the President was obliged to take prompt steps in calling out the militia, though no application had been made to him as required by the acts of 1792 and 1795. His action was justified by Art. 2, sec. 3, of the Constitution, providing that "he shall take care that the laws be faithfully executed," but Congress on Aug. 6, 1861, formally validated and made legal all Lincoln's previous acts, proclamations and orders. The "Force Bill" of April 20, 1871, gave the President power to call forth the militia and to employ the forces of the United States to suppress disorders intended to deprive any portion of the people of their constitutional rights, even if the State authorities should be unwilling to restore order. During the reconstruction period National troops were called for in all the States that had seceded, except Georgia and Florida, to preserve the peace, which had been disturbed by attempts to overthrow the newly established republican administrations in those States. They were withdrawn by President Hayes.

Intercalar, or **Intercalary,** in chronology, used of months, or shorter periods of time, inserted into the calendar to make the astronomical and civil years more nearly coincide.

Intellect, the thinking part of the mental constitution. Mind is made up of three elementary constituents — emotion, volition, and intelligence. When we experience pleasure or pain we are said to feel; when we act to obtain the one or escape the other, we exert our will; when we remember, compare, or reason, intelligence is brought into play. The powers or properties of the intellect have been variously classified.

Interdict, in old Roman civil law, a decree of the prætor pronounced between two litigants sometimes enjoining, but more frequently prohibiting, something to be done.

In Roman Catholic ecclesiastical law and history, an ecclesiastical censure by which persons are debarred from "the use of certain sacraments, from all the divine offices, and from Christian burial." It is a commingling and development of the New Testament excommunication with the interdict of the Roman prætor. It could be directed against the most prominent individuals, or against localities as small as a parish or as large as an empire. In 1606 Pope Paul V. placed the republic of Venice under an interdict which was met by determined and effectual resistance from the government, and soon afterward interdicts fell into disuse.

Interest, an allowance made for the use of borrowed money. Interest is either simple or compound. Simple interest is the interest on the principal during the time of the loan. Compound interest is the interest, not only on the principal but on the interest also, as it falls due. The amount of interest legally obtainable varies in the States and Territories of the United States, according to the laws of the respective States. Out of the 49 States and Territories there are 38 which have a legal limit of interest, the remaining 11 being allowed to charge any sum obtainable by contract.

In New York and some other States the exaction of illegal rates for the use of money is a criminal offence, and in other States equity may be invoked to relieve a debtor from interest that is manifestly exorbitant and unjustifiable. The Rhode Island Supreme Court, in a noted case, held that where 6 per cent. a month had been agreed to on a thirty day note it held only for the thirty days, even if the note was not paid, the interest then running at 6 per cent. a year. New York has no limit on call loans of $5,000 or over.

Interference, in farriery, the act of interfering or striking the hoof, or shoe of one hoof, against the fetlock of the opposite leg, so as to break the skin or injure the flesh.

Interior Department, one of the executive departments of the United States government. Its functions are indicated in the following duties of its chief: The Secretary of the Interior is charged with the supervision of public business relating to patents for inventions; pensions and bounty lands; the public lands and surveys; the Indians; education; railroads; the Geological Survey; the census; the Hot Springs Reservation, Arkansas; Yellowstone National Park, Wyoming; and the Yosemite, Sequoia, and General Grant parks, California; distribution of appropriations for agricultural and mechanical colleges in the States and Territories; the custody and distribution of certain public documents; and supervision of certain hospitals and eleemosynary institutions in the District of Columbia. He also exercises certain powers and duties in relation to the Territories of the United States.

Intermediate State, the state of the soul between death and the resurrection. Christian opinions on the subject may be reduced to two: one that there is a place distinct from both heaven and hell in which disembodied souls are kept till the resurrection; the other that the souls of the righteous at death, becoming perfect in holiness, immediately pass to heaven, while those of the wicked, now beyond the power of being regenerated, go to hell in anticipation of the judgment day. The Greek and the Roman Church hold the first opinion, while the Calvinistic or Puritan theology accepts the latter view.

Internal Improvements. From the beginning of the United States government till 1860, the question of a system of internal improvements carried on by the general government was a party question. The Republican (Democratic-Republican), and after it the Democratic party as the party of strict construction, opposed such a system. Improvements, the property in which remains in the general government, as lighthouses, etc., were not opposed, but improvements on rivers and roads, the benefit of which passes to the States, were the objects of attack. Most of the earlier States were on the sea-coast, and the improvement of their harbors was at first carried on by means of tonnage taxes on the commerce of the port, levied with the consent of Congress. But a tax on tonnage is a tax on the consumer of the goods carried in the vessel, and the growth of inland States rendered it unjust thus indirectly to tax them in the price of articles consumed, in order to improve the harbors of the seacoast States, and though this practice was, in isolated cases, continued till the middle of the 19th century, it was generally discontinued much earlier. As early as 1806 the improvement of roads by the National government was conceived in order to indemnify the interior States, and in 1823, the improvement by the National government directly of rivers and harbors was begun. The Republican (Democratic-Republican) Presidents Jefferson, Madison, and Monroe, opposed these improvements as unconstitutional, though toward the end of his term Monroe became more favorable to the

system. John Quincy Adams was a warm advocate thereof and Jackson its stern opponent. Though the Democrats opposed any general system of improvements, they continued to apply funds to particular purposes. The Whigs now adopted the system originated by the Democrat, Jackson, viz., the distribution of the surplus among the States. But once did the Whigs attempt to put this into execution, and then, in 1841, the veto of President Tyler, at odds with his party in Congress, put an end to that scheme, which has not since been revived. The introduction of railroads has partly done away with the question of improvements for roads, while a system of assistance to the railroads, by means of the grant of land along the line of their route, has sprung up. From this policy a revulsion has set in and the present tendency is to the recovery of as much of the land so granted as has not been earned by a strict compliance with the terms of the grant. To this both of the great political parties stand committed.

Internal Revenue, the moneys collected under the internal revenue bureau in the Treasury Department of the United States. The term includes most of the receipts from national taxes, except customs duties; but as commonly restricted it does not embrace receipts from the sale of public lands, patent fees, postal receipts, etc., which are really sources of internal revenue. Taxes are apportioned among the States only in proportion to the population. The first internal revenue tax was by act of March 3, 1791, which provided for a tax on distilled spirits of domestic manufacture, discriminating in favor of those produced from domestic materials, and against those produced from foreign materials. The enforcement of this act led to the Whisky Insurrection of 1791. In 1794 taxes were levied on carriages, retail selling of wines and foreign distilled liquors, on snuff, sugar and sales at auction. In 1797 taxes were laid on stamped vellum, parchment and paper. In 1798 the first direct tax of its kind, one of $2,000,000, was apportioned among the States, and it was proposed that it should be levied on dwelling-houses, slaves and land. The tax of 1791 was levied to establish the principle of national taxation; that of 1794 from fear of hostilities with England; that of 1798 because of the threatened war with France. On Jefferson's accession to the presidency, and on his recommendation, all internal taxes were repealed in 1802, and no others were authorized till 1813. Then the war with England necessitated an increased revenue and most of the old taxes were reimposed. These were to cease a year after the close of the war, for the maintenance of which they were levied; but they were afterward continued for a while for the payment of the national debt. In 1814 increased need of money led to an augmentation in the amount of these direct and other internal taxes, and to the first imposition of taxes on domestic manufactures other than sugar, snuff and spirits, such as iron, candles, hats, playing-cards, umbrellas, beer, ale, harness, boots, plate, household furniture, gold and silver watches, etc. The return of peace brought the abolition of direct taxes, excise duties and other internal taxes, and from 1818 to 1861 none of these were levied.

The Civil War forced a renewal of the internal revenue system, and in 1861 a direct tax of $20,000,000 was apportioned among the States, though it was not collected till a year later. On July 1, 1862, an exhaustive internal revenue act was passed, levying taxes on all sorts and kinds of articles too numerous to mention, on trades, incomes, sales, manufactures, legacies, etc. The bill was ill-considered and needed frequent modifications. More than 25 acts on the same subject were passed within the next six years. A few industries were taxed out of existence, but all were more or less disturbed. However, enormous revenues were raised and the people submitted without opposition to the necessities of the case. Extensive reductions were made after the war had ceased by various acts in 1866, 1867 and 1868. Further reductions were made in 1872, when, among others, stamp taxes, except that of two cents on checks, drafts and orders, were abolished. Various acts since 1872 have reduced the subjects of internal revenue taxation to their present numbers, tobacco, spirits, fermented liquors, bank circulation and, by Act of Aug. 2,

1886, oleomargarine. By the Revenue Act approved June 13, 1898, special taxes were levied to meet the expenses of the war with Spain. Among the articles taxed under this act were, fermented liquors, tobacco, snuff, bonds, debentures and certificates of stock issued after July 1, 1898, agreements of sale, bank checks, drafts, bills of exchange, insurance policies, proprietary medicines, etc. The total amount derived from internal revenue from the beginning of the government, 1789, to 1898 was $5,181,113,084. The stamp tax, so far as it affected bank checks, express receipts, promissory notes, etc., was abolished to take effect July 1, 1901.

International, the recognized contraction for a society of which the full title was The International Working Men's Association. It was founded at a meeting held in St. James' Hall, London, Sept. 28, 1864. At The Hague Congress, in 1872, the extreme party was outvoted by the moderate wing, who transferred the seat of administration to New York. After the Geneva Congress, in 1874, the International proper ceased to exist. The extremists lingered till 1879, and then formed an alliance with Socialism. The general aims of the International were the abolition of wage-paid in favor of associated labor, to be developed to national dimensions by national means, the abolition of private property in the means of production, and their reversion, with land, to the State.

International Law, the name given by Bentham to what had previously been called the Law of Nations. It arose gradually during the latter part of the Middle Ages, when commerce and navigation began to revive. At first it took the form of commercial usage, then it was promulgated in "royal ordinances," and finally became tacitly recognized as commercial law. Then it was extended to all international transactions, even though not commercial. It is divided into three departments: the principles that should regulate the conduct of States toward each other; of private parties arising out of the conduct of States to each other; of private parties as affected by the separate internal codes of distinct nations. Its leading principles are three: that every nation possesses an exclusive sovereignty and jurisdiction in its own territory; that no State or nation can by its laws directly affect or bind property out of its own territory, or persons not resident therein, natural born subjects or others; that whatever force the laws of one country have in another depends solely on the municipal laws of the latter.

Interstate Commerce Law, The. It is seldom that an act of Congress touches so closely the life of the people as does the interstate commerce law. The great transportation systems that have grown up out of the necessities of the vast inland trade of the United States are under private control. Frequent and well-grounded complaints from all sections of the country resulted in congressional action. On Feb. 4, 1887, the national Legislature passed the bill now known as the interstate commerce law, which went into effect April 5. It applies in the main to the "trunk line" railroads, and its authority rests on the constitutional right of the central government "to regulate commerce between States." The law was the fruit of an attempt to remove the inequalities of freight and passenger rates, which had become an evil, and most of its provisions are calculated to abolish abuses. No free passes may be issued except to postal agents and regular officials of railroads. No reduced rates to special classes of travelers may be granted. This clause affects commercial travelers, theatrical companies, baseball nines, and other itinerant organizations or individuals who have heretofore paid less than the ordinary fare; but the prohibition does not apply to ministers of the Gospel. Freight rates were disturbed more than any others. Some roads practised systematic discrimination in their charges. A great corporation often paid at a low rate for its vast business, while the small shipper was crushed by a much higher charge for transportation. It was difficult to discover and abolish such arrangements, and smaller concerns had to suffer. The interstate commerce law was intended to end this abuse. But the most important feature of the act is embodied in what is known as the "short-haul

clause." On certain railroad lines in competition with water routes it has been customary for land carriers to make a reduction in freight charges, in order to secure traffic which would otherwise fall to the slower but cheaper canal and steamboat lines. A good example of the "long and short haul principle" is found in England, where American products may reach London by one of two principal routes: by steamer direct, or by steamer to Liverpool, and thence by rail to London. Railroads carry foreign freight between these two cities for less than their regular charges for half the distance. Otherwise no freight at all would go by way of Liverpool. Such an arrangement naturally causes dissatisfaction among the merchants of the way stations, who pay more for the "short haul" to London than their brother merchants in Liverpool pay for the "long haul" (the whole distance to Liverpool). In America hundreds of instances could be found in which railroads made this distinction between through and local freight. The new law forbade the distinction, and, as a consequence, the rates of through transportation were increased. But the first act of the Interstate Commerce Commission was to suspend the "short-haul" clause for 90 days in the case of certain roads, which protested that they would be ruined by its operation, on account of the cheap water routes which are open to their patrons. The Interstate Commerce Commission consists of five members appointed by the President, each drawing a salary of $7,500 a year.

Intestacy, the state of a person who has died without leaving a will. If no will, or deed equivalent to a will, is executed, or if a will executed is invalid from defect or form, then an intestacy occurs, and the law provides an heir or next of kin, in lieu of the owner himself doing so.

Intestine, the name given to the convoluted membranous tube extending from the stomach to the anus, which receives the ingested food from the stomach, retains it for a longer or shorter period, mixes it with the bile, pancreatic juice, and intestinal secretions, gives origin to the lacteal or absorbent vessels which take up the chyle and convey it into the current of the blood, and which, lastly, conveys the fecal or indigestible products from the system. The intestines are contained within the cavity of the abdomen, and from their comparative size and caliber, as well as from structural conformation, are divided into the large and small intestines.

Intoxication, the state produced by the excessive use of alcoholic liquids. In the first stage the circulation of the blood becomes somewhat more rapid, and all the functions of the body and mind are exercised with more freedom. In the second stage the effect on the brain is more decided. The peculiarities of character, the faults of temperament, manifest themselves without reserve; the secret thoughts are disclosed, and the sense of propriety is lost. In the next degree consciousness is still more weakened; the ideas lose their connection; vertigo, double vision, and other discomforts supervene; till finally the excitement partakes of the nature of delirium, and is followed by a more or less prolonged stupor, often by dangerous coma.

Intransigentes (Spanish, "the irreconcilables"), the name given to the Extreme Left in the Spanish Cortes, and afterward to the extreme Republican party in Spain, corresponding with the Communists in France. In the latter sense it was first used in the Spanish troubles which arose when Amadeus resigned the throne in 1873.

Intrenchment, any work that fortifies a post against the attack of an enemy. The word is generally used to denote a ditch or trench with a parapet.

Intrepid, The, the name given to the Tripolitan ketch captured by Decatur, in which he and 74 brave American tars, on the night of Feb. 16, 1804, entered the harbor of Tripoli and boarded the American warship "Philadelphia," which the Tripolitan pirates had captured, and after a fierce struggle with her turbaned defenders killed or drove them into the sea.

Invalides, the name of a French soldiers' home. In 1596 Henry IV. formed an asylum for military invalids in an old convent in the Faubourg St. Marcel. This institution was removed

to the Chateau de Bicetre by Louis XIII. In 1670 Louis XIV., by whose wars the number of invalids was greatly augmented, determined to found a magnificent establishment to receive them. Several additions were made at various times, and the whole edifice now covers 16 acres of ground, enclosing 15 courts. All soldiers who are actually disabled by their wounds, or who have served 30 years and obtained a pension, are entitled to the privileges of this institution, which can accommodate 5,000 men.

Inventory, a list or catalogue of goods and chattels, containing a full, true, and particular description of each, with its value, made on various occasions, as on the sale of goods, decease of a person, storage of goods for safety, etc.

Invertebrata, a collective term applied to indicate all the great lower divisions or sub-kingdoms of the animal series, and used in contradistinction to the highest group of the animal kingdom, to which the name Vertebrata or vertebrate animals is given.

Investiture. From the establishment of the Church under Constantine the Great, the Roman functionaries interfered in ecclesiastical affairs. The emperors, kings, and princes of Europe became accustomed to confer the temporalities of the larger benefices and monasteries by the delivery of a ring and a crozier. When the bishop or abbot elect had received these, he carried them to the metropolitan, who returned them, to indicate that the Church had conferred on him sacred office. Pope Gregory VII. considered these were insignia of spiritual office, and not of its temporal accompaniments. He therefore wished the emperor, Henry IV., to cease conferring investitures. A fierce contest arose between them, continued by their successors. By an arrangement at the Diet of Worms, 1122, it was settled that the emperor should confer the temporalities of a see or abbacy by other symbols.

Invincibles, an Irish secret society not identical with that of the Fenians, prior to 1882. One of the main objects of the Invincibles was to "remove" (a euphuism for "to assassinate") government officers or others who might incur the displeasures of the association. On May 6, 1882, it achieved what doubtless it deemed a great victory, having on that day succeeded in "removing" Lord Frederick Cavendish, and Thomas A. Burke, in the Phœnix Park at Dublin. The plot was directed against the latter, and the former interfering to protect his friend, shared his fate. The government soon overcame the "Invincibles." On Feb. 20, 1883, 20 charged with complicity in the Phœnix Park murders were put on trial; on July 14, Joseph Brady, who had been convicted of actual perpetration of the murder of Mr. Burke, was executed, as were others subsequently. The leading witness was James Carey of Dublin. He was shot in a steamboat near Natal, on July 29, by an Irishman, O'Donnell, who was subsequently brought to England, tried, and executed.

Invocation, a judicial call, demand, or order; as, the invocation of papers into court.

Invoice, a statement on paper concerning goods sent to a customer for sale or on approval. It usually contains the price of the goods sent, the quantity, and the charges on them made to the consignee.

Iodine, a haloid monatomic element obtained from the ash of sea-weeds called kelp; this is treated with water, filtered and evaporated to a small bulk; potassium and sodium salts crystallized out and the dark-brown mother liquid then mixed with sulphuric acid and manganese dioxide, and, gently heated in a still, the iodine distills over and is collected in a receiver.

Iodism, the term within which is included a variety of painful and inconvenient results following, under rare circumstances, the administration of iodine and its salts, but more especially the iodide of potash, a most valuable blood remedy, which, however, should never be taken except under medical direction.

Iodoform, a lemon-yellow crystalline substance, having a saffron-like odor and an unpleasant iodine-like taste. Its odor is most persistent, and can hardly be removed. It is of interest as having a composition similar to that of chloroform, from which it

only differs in having iodine in the place of chlorine.

Iona, or **Icolmkill,** the isle of Columba's cell or retreat, one of the W. islands of Scotland, in the Atlantic Ocean; area, 2,000 acres. It is chiefly interesting to the antiquarian, for the ruins of its ancient religious edifices. These were established about the year 565, by St. Columba, who left Ireland, his native country, with the intention of preaching Christianity to the Picts. In the church, said to have been built by Queen Margaret toward the latter end of the 11th century, are the tombs of 48 Scottish kings, 4 kings of Ireland, 8 Norwegian monarchs, and 1 king of France.

Ionia, in ancient geography, the most flourishing district of Asia Minor, where a colony from Attica settled about 1050 B. C. This beautiful country extended from the Hermus along the shore of the Ægean Sea to Miletus and the promontory of Posideum. This country is said to have been peopled by Greek colonists about 1045 B. C. After founding important cities, the Ionians obtained possession of Smyrna about 688 B. C., and the country soon attained a high degree of prosperity. At the commencement of the reign of Crœsus, 560 B. C., it was subject to the Lydians, and it was conquered by Cyrus 557 B. C. The inhabitants made unsuccessful efforts to regain their independence, 500 and 406 B. C., and they assisted the Greeks against the Persians at the battle of Mycale, 479 B. C. The Persian yoke was at length shaken off by the victory at the Eurymedon, but the peace of Antalcidas again imposed it on the Ionians 387 B. C. On the overthrow of the Persian empire by Alexander III., Ionia became subject to Macedonia, and it afterward formed part of the Roman empire 133 B. C.

Ionian Islands, the name commonly given to the seven islands, Cephalonia, Cerigo, Corfu, Ithaca, Paxo, Santa Maura, and Zante, with a number of islets, extending along the S. W. coast of Greece; area, 1,097 square miles; pop. 251,712. The Ionian Islands, with their dependencies, were erected into the republic of the Seven United Islands, March 21, 1800. It was to pay a moderate tribute to the Porte, and its independence was guaranteed by Turkey and Russia. The French captured the islands in 1807, and Russia ceded them to France, July 7, 1807. The French garrisons surrendered to an English force, Oct. 3, 1809, and by a treaty between Great Britain and Russia, signed at Paris Nov. 5, 1815, they were formed into an independent State, called the United States of the Ionian Islands. With the consent of Great Britain, they were reunited to the kingdom of Greece in 1864.

Ionian Sea, that part of the Mediterranean communicating with the Gulf of Venice by the Strait of Otranto, and having Greece and part of European Turkey on the E.; Sicily and the most S. part of Italy on the W. Its greatest breadth is about 400 miles.

Ionian School, the first school of Greek philosophy, the distinctive characteristic of which was its inquiry into the constitution of the universe.

Ionic Order, one of the five orders or architecture, the distinguishing characteristic of which is the volute

IONIC COLUMN.—BASE AND CAPITAL.

of the capital. The Ionic order has more moldings, its forms are richer and more elegant, and as a style, it is lighter and more graceful than the Doric.

Ions, the components into which an electrolyte is broken up on electrolysis. The one, the anion (the electro-negative component, chlorine), travels "against" the current (in its conventional direction in the circuit), and is deposited on or chemically attacks the anode or positive electrode; the other, the cation (the electro-positive component, copper), travels "with" the current to the cathode, to the spoons in the plating bath.

I O U, an English recognized contraction for "I owe you." A paper with these letters on it, followed by an amount and duly signed. It is a simple acknowledgment of indebtedness to some particular person. It is not a negotiable instrument. This form of due bill has never obtained currency in the United States.

Iowa, a State in the North Central Division of the North American Union; admitted to the Union, Dec. 28, 1846; number of counties, 99; capital, Des Moines; area, 56,025 square miles; pop. (1900) 2,231,853.

The surface of the State is generally level, with a gentle rise toward the N. The highest elevation is near Spirit Lake, in Dickinson county, 1,694 feet. The center of the State forms a watershed between the Mississippi and the Missouri. There are no hills of consequence, the entire surface being a plateau, and whenever irregularities occur, they are depressions below the general level. There are steep bluffs along the river banks, caused by the wearing away of the drift and rocks, by the water. The State is covered with prairie land, with no swamps or natural forests. The water system is divided into two parts, those rivers flowing into the Mississippi in the E., and those flowing into the Missouri in the W. There are many small and beautiful lakes, the largest being Spirit Lake, and the Okoboji Lakes, in Dickinson county.

The Illinois coal field extends over an area of 20,000 square miles in this State, and lead is found in Galena limestone, near Dubuque.

The soil generally is a soft black loam, formed directly through deposits of the Quaternary age, and varies from 1 to 100 feet in depth. It is easily worked, free from stones and stumps, and of almost inexhaustible fertility. The soil of the prairies is a diluvial drift, while the river beds furnish a light alluvial deposit. The principal natural trees are several varieties of oak, hickory, elm, black walnut, linden, cottonwood, maple, cedar, slippery elm, butternut, sycamore, ash, pine, and box-elder.

The fertility of the soil and the ease with which it may be worked present special advantages for agricultural pursuits. Among native fruits are the plum, crabapple, grape, cherry, blackberry, gooseberry, strawberry, and raspberry, while the wild prairie grass is used for pasturage and for hay. The principal farm crops are corn, oats, wheat, barley, rye, buckwheat, potatoes, and hay.

In 1900 there were reported by the United States Census, 14,819 manufacturing establishments, employing $102,733,103 capital, and 58,553 persons; paying $23,931,680 in wages, and $101,170,357 for raw materials; and having an annual output valued at $164,617,877. The chief articles of manufacture include dairy products, agricultural implements, confectionery, clothing, flour and grist, lumber, saddlery and harness, packed meat, and tobacco.

According to recent reports the school population is 633,900; the enrollment in public schools, 554,992; and the average daily attendance 364,409. There are 13,836 public school buildings; 28,694 teachers. For higher education there are 334 public high schools, 35 private secondary schools, 4 public and 18 private normal schools, and 25 universities and colleges for men and for both sexes. The strongest denominations in the State are the Roman Catholic, Methodist Episcopal, Disciples of Christ, Regular Baptist, Presbyterian, North Lutheran, Congregational, United Brethren and Friends.

The total length of railroads within the State, Jan. 1, 1901, was 9,406 miles, of which 268 miles were constructed during the previous year.

The governor is elected for a term of two years, and receives a salary of $4,100 per annum. Legislative sessions are held biennially and are unlimited in length. The Legislature has 50 members in the Senate, and 100 in the House, each of whom receives $550

per term. There are 11 representatives in Congress. The government in 1901 was Republican.

Iowa was first visited by Marquette and Joliet, the French explorers, in 1673, and the first settlement was made by Julien Dubuque and a party of 10 to work the lead mines near the present city of Dubuque. The territory including Iowa was ceded to Spain in 1763, and re-ceded to France in 1801, and became the property of the United States by the "Louisiana Purchase" in 1803. It became a separate territory in 1838, and was admitted to the Union as a State in 1846. In 1857 occurred the Spirit Lake massacre, an Indian raid, in which about 40 settlers were killed and their homes destroyed. The capital was formerly in Iowa City, but in 1857 was removed to Des Moines.

Iowa, The, till the building of the "Illinois," the largest vessel in the United States navy. Four years were occupied in its construction, and the cost was over $3,000,000. It is a first-class twin-screw, steel battleship. In the Spanish-American War the "Iowa" played an important part. At the bombardment of San Juan de Porto Rico it was Admiral Sampson's flagship, and was struck eight times without any impression being made on its armor. It also took part in the destruction of the Spanish fleet off Santiago.

Iowa Wesleyan University, a coeducational institution in Mount Pleasant, Ia.; founded in 1844 under the auspices of the Methodist Episcopal Church.

Irade, a decree or command of the Sultan of Turkey directed to the grand vizier, whose duty it is to promulgate it to the public.

Iranian Languages, a family of languages belonging to the Indo-European stock, closely allied to the Indian group, and called by some philologists Persian, from the best-known member of the family. The two oldest known Iranian languages are the Old Persian of the cuneiform inscriptions and the Old Bactrian or Zend, the latter the language in which the Zend Avesta or sacred writings of the Parsees is composed. The Middle Iranian languages are the Pehlevi, and still later the Parsee, which are preserved in the commentaries to the Zend Avesta. The latter approaches pretty closely to the modern Persian. The most important of the New Iranian languages is the modern Persian, in which has been produced a very rich and celebrated literature.

Irawadi, or **Irrawaddy** (said to mean, like Mississippi, "father of waters"), the principal stream in Farther India, E. of the Brahmaputra. It is navigable for vessels of 200 tons burden as far up as Ava. Length about 1,200 miles.

Ireland (in Irish, Erin; in Latin, Hibernia), the more W. and smaller of the two principal islands of which the United Kingdom is composed, is separated from Great Britain on the E. by the Irish Sea, and surrounded on all other sides by the North Atlantic Ocean. Measured diagonally the greatest length is 300 miles; and the greatest breadth is 212 miles. area, 32,531 square miles; pop. (1901) 4,456,546. Ireland is divided into four provinces of Leinster, Ulster, Munster and Connaught, and into 32 counties. capital, Dublin; chief towns, Belfast, Cork, Limerick, and Londonderry.

The climate of Ireland is very favorable to vegetation. Its mild temperature and humid atmosphere enable several delicate plants, which usually in the same latitude can only be cultivated in sheltered gardens, to flourish here with vigor in the open air; and not infrequently forest trees continue to retain their foliage after they have lost it in the warmer parts of England. So far, then, as nature is concerned, no country ought to be richer in forest scenery than Ireland; and it would seem that in early times large tracts of magnificent timber were spead over its surface; but the grossest waste and mismanagement have prevailed. trees have almost disappeared everywhere except from the parks of the gentry, and what ought to have been among the best, is perhaps the worst wooded country in the middle latitudes of Europe.

Manufactures and Trade.— The linen manufacture early took root in Ireland, and still continues to be its most important staple, having increased in a remarkable manner within the last 40 or 50 years, and Belfast, its center has now become the first city of Ire-

land in population as well as in manufacturing industry. The cotton manufacture has had a very different history, the number employed in this industry having declined from 4,000 in 1868 to 800. The woolen manufacture appears at the outset to have made such progress as to alarm the woolen manufacturers of England; who, in a spirit of petty jealousy, petitioned the English Parliament for its discouragement, and succeeded. As a result the woolens of Ireland continue to be of very secondary importance, and indeed the manufacture seems to have much decreased in recent years. The manufacture of Irish poplins (of woolen and silk, or woolen and flax or cotton) is very flourishing. There are about 20 mills engaged in paper-making. The brewing of porter and distillation of whisky form important items in the national production. Sewed muslins, cambric handkerchiefs made on handlooms, lace, and hosiery may also be mentioned.

The trade of Ireland is not at all proportioned to her natural capabilities, and to the admirable facilities afforded by the excellent harbors situated on her coasts. The most important article of export is raw produce, the greater part of which finds its market in Great Britain. It consists chiefly of grain and flour, live stock, salt and fresh meats, eggs, butter, etc. Manufactured articles, particularly linen, rank next in importance; but as the bulk of such articles is very small in comparison with their value, the trade, or at least the shipping connected with them, holds only a secondary place. The trade with foreign countries is also inconsiderable. The principal imports are colonial produce, woolen and cotton goods, wheat, wool, coals, and salt. Of the shipping employed in this trade only a mere fraction is Irish.

The Reformation never made much progress in Ireland, and though a Protestant Episcopal Church was established by law, it was only the church of a small minority. In 1869 it was disestablished.

At the head of the Roman Catholic Church in Ireland are four archbishops, who take the titles of Armagh, Dublin, Cashel, and Tuam, and 24 bishops. They are all nominated by the Pope. There are numerous monasteries and convents. According to the census of 1901 there were in Ireland 3,310,028 Roman Catholics, 579,385 Protestant Episcopalians, 443,494 Presbyterians, 61,255 Methodists, and 56,703 members of other persuasions, besides 3,769 Jews.

Since 1871 an agitation for what is called Home Rule has made itself prominent. Its chief supporters, who are designated as "Nationalists," profess not to desire the severance of Ireland from Great Britain; what they mainly want, it would seem, is to have an Irish Parliament to deal with matters exclusively Irish.

Ireland's Past, Present and Future.— The early history of Ireland is enveloped in fable. Whosoever the first inhabitants were the Celts obtained possession at a prehistoric period, and the island has remained chiefly Celtic ever since. St. Patrick converted the people from heathenism to Christianity, and for several hundred years after his time Ireland was preëminent in learning and missionary work. The people,however, remained divided under various kings and chiefs, and while the island contained religious and literary centers that were beacons of enlightenment to other lands, many of the natives were little better than savages. Ireland never received the Roman admixture which dominated France, and enabled that nation to become great in spite of feudalism and other features of the Dark Ages. Neither did Ireland receive, in time for it to have saving effect, that Saxon and Norman immigration which molded Scotland into a kingdom against which English aggression hurled its forces in vain. Ireland was, in effect, the highlands of Scotland without the lowland element, and met the fate which would have overtaken Scotland, had that nation ended at the Grampians. The Irish united long enough under Brian Boru to repulse the Danes. Then they fell back again into anarchy, of which Henry II. of England, under cover of a papal bull granting him the island, took advantage. From the landing of Strongbow until a recent period the struggle between the Anglo-Norman element reinforced since the reign of James I., by the Scottish emigration to Ulster,

went on. Of the Anglo-Normans many became "more Irish than the Irish themselves," and the opposition to British rule has largely emanated from this class, which has also given to England some of its most distinguished names in literature, war, and statesmanship. Since the Reformation religious differences have accentuated racial antagonisms, and cruel persecutions were met by savage retaliation. Rather than submit to British rule the Irish have largely emigrated, and in the armies of France and America Ireland's sons have met in arms their hereditary foes. The British government attempted at first to treat Irishmen fighting for America as traitors, but the late General Winfield Scott, in the War of 1812, gave the British to understand that any such action would be met by reprisals, and England tacitly abandoned that attitude. The present situation is that the Irish population in America far exceeds that in Ireland, where, although the Irish race is prolific, the population has for many years been steadily decreasing.

The successive conspiracies to separate Ireland from England by force have of late years been superseded by a movement to secure Home Rule for Ireland similar to that of Canada and Australia, and of the Isle of Man. The late William E. Gladstone after first opposing Home Rule, became a convert to the proposition, and earnestly advocated it. Charles Stewart Parnell was the leader of the Irish Home Rule movement, and an unhappy scandal which embittered his later years, undoubtedly did much, in weakening his personal standing, to weaken the Home Rule cause. The Irish Home Rule leaders quarreled among themselves, the opponents of Home Rule triumphed in the English elections, and for the present the question is in abeyance. The British government, however, is carrying through a liberal land reform scheme, intended to transfer, on reasonable terms, the farm lands of Ireland from the owners to the occupants. This has been done to a large extent in Ireland under previous legislation, and the virtual completion of this plan cannot fail to attach the farming element to the British allegiance. Already the condition of the Irish people shows general and marked improvement, which has greatly impressed itself on visitors from the United States, and some of the principal Irish political leaders are urging their countrymen to remain in their native land. When King Edward and Queen Alexandra visited Ireland in the summer of 1903 they were received everywhere with cordial enthusiam, significant of the changing feelings of the people toward the British crown. HENRY MANN.

Ireland, John, an American clergyman; born in Ireland, Sept. 11, 1838; came to the United States early in life; was educated in the Cathedral School of St. Paul; studied theology in France and was ordained a priest Dec. 21, 1861; was chaplain of the 5th Minnesota Volunteers in the Civil War. After the war he became rector of the cathedral in St. Paul; was later secretary and coadjutor to Bishop Grace, of St. Paul; was consecrated bishop in December, 1875, and archbishop in May, 1888.

Irenæus, a church father; born in Greece about 120, was a disciple of Polycarp, by whom he is said to have been sent to Gaul. On the martyrdom of Pothinus he succeeded him in the bishopric of Lyons in 177. Irenæus was a man of considerable learning, and animated with ardent zeal for Christianity. His great work is his refutation of the Valentinian form of the Gnostic heresy, and is usually named "Against Heresies."

Iridescence, the sheen of mother-of-pearl and other objects possessing a finely grooved surface. It is due to interference between the waves of white light reflected from different levels in the grooving; some of the wave-lengths are more completely abolished by interference than others are; the result is that the residual vibration which reaches the eye contains a preponderant proportion of the rays which have been less affected by interference, and the reflected light accordingly presents colors which vary according to the angle of reflection.

Iridium, a tetrad metallic element discovered by Descotils in 1803, and by Tennant in 1804, in the black powder which remains when crude platinum is dissolved in nitrohydrochloric acid.

Iris, in classical mythology the messenger of the gods who carries messages from Ida to Olympus, or from the gods to men.

In astronomy, an asteroid of the group between Mars and Jupiter, discovered by Hind in 1847.

In botany, the flower-de-luce. The species are very numerous, and are generally remarkable for their large, yellow, white, or blue flowers, and sword-like leaves. They abound in Europe, but are rare in America. The rhizomes of several species are more or less purgative and emetic.

In anatomy, the anterior part of the choroid coat of the eye, with superadded muscular fibers.

Irish Sea, a body of water lying between the N. of Ireland and the N. of England, with the S. W. counties of Scotland on the N. It is connected with the Atlantic on the N. W. by the North Channel and on the S. by St. George's Channel.

Irish Society, a committee of citizens belonging to 12 London Companies, invited by James I. in 1613 to take part in cultivating the confiscated lands in Ulster, which, to the extent of 511,465 acres, had become vested in the crown. The society in large measure built Londonderry, though walls and bastions had been erected there as early as 1609. They largely colonized the county of the same name, which was bestowed in honor of the 12 London companies. The full title of the society is the Honorable Irish Society.

Iritis, or **Irideitis,** an inflammation of the iris, accompanied by vascularity, change in color and appearance, irregularity and immobility of the pupil, with a visible and varying amount of lymph deposited in, on, and round the iris.

Iron, ferrum, a metallic tetrad element. It is the most universally distributed and the most generally applied of all the metals. Iron occurs nearly pure or alloyed with nickel in meteorites, but is generally found in combination with oxygen and as a carbonate. It is widely diffused in rocks, and often forms the chief coloring matter of clays and sands.

The commanding position of the United States in the production and manufacture of iron and steel is illustrated by some figures published in the London "Commercial Intelligence." The world's total product of pig iron in 1901 amounted to 40,408,000 tons, of which the United States contributed 15,878,000 tons; the United Kingdom, 7,760,000 tons; Germany, 7,663,000 tons; Russia, 3,100,000 tons; France, 2,362,000 tons; and the remainder of the world, 3,665,000 tons. Comparing the product of 1901 with that of the annual average for the five-year period of 1866-1870, it will be seen that the United States increased its iron and steel output far more rapidly than any other nation, the figures being: United States from 1,464,000 tons to 15,878,000 tons, an increase of 985 per cent.; United Kingdom, from 5,133,000 tons to 7,750,000 tons, an increase of 51 per cent.; Germany, from 1,226,000 tons to 7,663,000 tons, an increase of 525 per cent.; and the entire world, exclusive of the countries mentioned, from 2,710,000 tons to 9,117,000 tons, an increase of 236 per cent.

An even more noticeable feature of the growth is the steady and enormous growth of the proportion of the world's product supplied by the United States, and the equally rapid decadence in the position held by Great Britain. Thirty-five years ago the United Kingdom produced practically one-half of the world's pig iron, while the United States produced less than one-seventh of the total; whereas, in 1901 the United States stood first in its proportion of the total, contributing practically four-tenths, as against less than two-tenths by the United Kingdom, and about the same share by Germany.

In the five-year period, 1866 to 1870, the world's per capita consumption of pig iron was 17 pounds; in 1901 it was 57 pounds; while in the latter year the United States consumed 455 pounds per capita, and the United Kingdom 350 pounds per capita.

The effect of this remarkable increase in the production of iron in the United States has been strongly marked in its relation to the foreign commerce of the country. Imports of iron and steel manufactures in 1882 amounted to $67,976,897 and formed 9.3 per cent. of the total imports. In 1901 they had fallen to $17,874,789, and formed but 2.2 per cent of the

total imports. On the other hand, the exports of iron and steel manufactures grew during the same time from $20.748,206 in 1882 to $117,319,320 in 1901. They formed in 1882 about 3 per cent. of the total exports, and 15 per cent. of the manufactures exported; in 1901 they formed 8 per cent. of the total exports and 28 per cent. of the manufactures exported.

Iron Age, in classical mythology, the last of the four great ages of the world described by Hesiod, Ovid, etc. It was supposed to be characterized by abounding oppression, vice, and misery.

In scientific archæology, an age, the third in succession, in which weapons and many other implements began to be made of iron, stone having been used for these purposes in the first, and bronze in the second.

Iron City, a popular name applied to Pittsburg, Pa., because of the large numbers of its furnaces, rolling mills, and foundries; also known as the "Smoky City," because of the large use of bituminous coal.

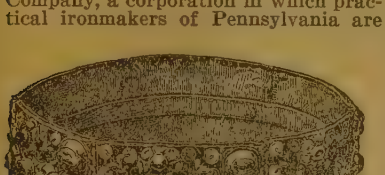
Ironclad, a naval vessel protected by iron plates. The system of plating ships with iron was first tried on some of the French floating batteries used at Kinburn in 1855; but, though the results were satisfactory; no advance was made till 1858, when the French again took the lead with the "Gloire," but were quickly followed by the first English armored vessels. All the early vessels were constructed of wood, but the later specimens have been built of iron framing, and few of the modern ships are alike. The first crucial test to which ironclad vessels were subjected, however, was reserved for the American navy to apply. An old wooden steam vessel, the "Merrimac," was razed by the Confederates, and covered with iron (railroad rails, etc.), and the sides sloping up to an apex like the acute angle formed by an old-time house roof. Operations were begun against the National war vessels in Hampton Roads, Virginia, in the early part of 1862, and after the "Cumberland" and "Congress" had been irretrievably injured, and the "Minnesota" run aground, the "Monitor," the first turreted ironclad ever used in active warfare, the production of Capt. John Ericsson, appeared in the roadstead, and then began the first naval duel between ironclad vessels. Neither the "Virginia," as the "Merrimac" had been rechristened, nor the "Monitor" was much injured in the fight, but owing to the less draught of the "Monitor" the Confederate vessel was rendered practically useless and obsolete, and in a few days thereafter was run down the James river to Craney Island and sunk. The success of the "Monitor" gave rise to numerous vessels of the same type, the salient features of which were a low free board and a revolving turret, and practically revolutionized naval warfare. The ironclads of the United States navy are varied in type, most of them being armored cruisers of extreme speed, and depending more upon celerity of movement than on heavy armor or armament. In the war with Spain both American cruisers and battleships proved themselves to be the best fighting ships in the world.

Iron Cross, a Prussian order, instituted March 10, 1813, by Frederick William III., to be conferred for distinguished services in war. It was made of iron to commemorate the grim "iron" period at which it was created. The decoration consists of a Maltese cross of iron, edged with silver, and is worn round the neck or at the buttonhole. The order was revived by William I. in 1870, on the eve of the great war with France. The grand cross, a cross double the size, is presented exclusively for the gaining of a decisive battle or the capture or brave defense of a fortress.

Iron Crown, a golden crown, set with precious stones, with which anciently the kings of Italy, and afterward the German emperors were crowned when they assumed the character of kings of Lombardy. It has received the above name from an iron circle, forged, according to a tradition opposed by some and accepted by others, from a nail of the cross of Christ, and introduced into the interior of it.

Irondale, a locality in Jefferson co., Wash.; 5 miles S. of Port Townsend. Here, nearly one-quarter of a century ago, was erected the first blast furnace on the Pacific coast. The venture, after being in operation for a matter of 12 years, proved a failure,

and the plant was shut down. After the expenditure of $250,000 in prospecting and developing iron mines, experimental work with fuels, the installation of new machinery, and the repair of the old plant, the Pacific Steel Company, a corporation in which practical ironmakers of Pennsylvania are



IRON CROWN OF LOMBARDY.

the principal owners, has commenced work where the defunct Puget Sound Iron Company abandoned it.

Iron Mask, Man in the, a mysterious French prisoner, confined in the Bastille and other prisons in the reign of Louis XIV. His identity has never been established. Voltaire, in his "Age of Louis XIV.," treats the anecdote historically, and apparently favors the opinion that the Mask was a twin brother of Louis XIV., confined to prevent possible state complications. The prisoner, in journeying from one prison to another, wore a mask, and was at last transferred to the Bastille, where he was treated with great distinction. He died in the Bastille in 1703.

Irons, shackles, fetters, or bilboes for the feet, especially such as are used on board ship.

Iron Stone, a "stone" or mineral into the composition of which iron largely enters.

Ironstone China, one of the contributions of Wedgwood to the ceramic art.

Ironwood, a name given to various trees from the quality of their timber. The ironwood or hop-hornbeam of America is a tree with a trunk not exceeding six inches in diameter, with very hard wood, so heavy that it sinks in water, and foliage resembling that of birch.

Iroquois, a confederation of Indians formerly occupying the W. and central portion of New York State, consisting at first of five tribes, the Oneidas, Mohawks, Cayugas, Senecas, and Onondagas. In 1712 the Tuscaroras were admitted to the league, which adopted the title of the "Six Nations," and is so known to history. The Iroquois were at once the most powerful and the most enlightened; they lived in villages and pursued agriculture. In the Revolutionary War they were allies of the English, but in 1779 they were attacked by General Sullivan and greatly injured. The Iroquois present the curious anomaly among Indian peoples of steadily increasing in numbers since 1812. Most of them have been removed to various reservations farther west.

Irradiation, a curious phenomenon in virtue of which a star or any bright object appears larger than it really is. If a thin platinum wire be intensely heated by the passage of an electric current, it seems to a person distant about 50 feet to be as thick as a pencil.

Irrigation, the process of watering or moistening land by ditches or other artificial means. It is probably the earliest application of science to agriculture. During the last half of the 19th century the lands watered from the ancient irrigation works of India were more than trebled by the completion of the Ganges canal system, the largest and costliest in the world, and by the more systematic and effective operation of works previously built. The land reclaimed and the value of the products of irrigation in the historic Nile valley have been largely augmented within the past 30 years, and the completion of the great Nile dam at Assouan, built at a cost of $24,000,000, is destined to raise the agriculture of Egypt to an importance and prosperity never before known and till recently believed to be impossible. Since the construction of the first ditches in Utah by the Mormon pioneers, irrigation has marvelously extended the domain of enterprise and civilization in all parts of the world. It has wholly changed the appearance and prospects of the W. third of the United States. It prom-

ises to make the Northwest Provinces of Canada one of the grain fields of the British empire. Within the past quarter of a century irrigation has made the Hawaiian Islands one of the chief sources of supply for the sugar consumed in the United States. This recent world-wide extension of irrigation in lands not long ago uninhabited and unproductive, has added many millions of acres to the world's productive area, and is causing the commercial and social importance of this art or science to be appreciated as never before. That it is to be one of the great factors in the industrial development of the 20th century cannot be doubted.

Methods.— The water used on the greater part of the irrigated area is distributed by gravity. The supply is tapped at a point higher than the land to be watered; thence it is carried in canals or ditches, which follow the contour of the country, to the place of use. Many of these canals are important engineering achievements. In the United States there are several canal systems which have cost over $1,000,000, and at Lagrange, California, is the highest overfall dam in the world. The lifting of water from wells or streams by hand or by oxen was one of the great means of ancient irrigation. Of recent years this has been supplemented by an important use of steam-pumping plants. There are 1,500 of these in the San Joaquin valley of California alone. A large part of the water used in the irrigation of cane in the Hawaiian Islands is raised by pumps. Some of these are of extraordinary size and capacity, being capable of lifting 20,000,000 gallons 500 feet vertically in 25 hours. Other methods employed are flooding; the use of checks or levees, which is merely a modification of flooding by restricting the movement of water to definite areas by means of artificial embankments; the furrow method by which the water is confined in furrows from which it is absorbed laterally as well as vertically.

Subirrigation.— Introducing water below the surface for the watering of crops has several obvious theoretical advantages, such as the preventing of loss by evaporation, distributing water at levels which will encourage plants to strike their roots deep in the soil, and the reducing of frequent surface cultivation, which have caused inventors and cultivators to labor to secure a system which would be effective and cheap enough for general adoption, but thus far without complete success. This method of irrigation has not as yet passed the experimental stage, and the acreage irrigated is insignificant.

Irrigation Laws and Institutions.— In France, Spain, Italy, Egypt, and India all the more important irrigation works are owned and controlled by the government. Originally many of these works were private property, but the complications growing out of private ownership of streams and the controversies over their distribution among these owners led to the assumption of governmental ownership and control of both ditches and streams. In undeveloped and sparsely settled countries, like Austria and the United States, where the adoption of irrigation is of more recent origin, nearly all that has been done is the result of private enterprise. In Canada all streams are State property, and all irrigation works are built under licenses issued by the government, and in accordance with plans prepared by or approved by it. The United States stands practically alone among important irrigation countries in having left the work of reclamation to the unaided efforts of private capital and in the prodigality of the surrender of public control of streams. In one respect the policy pursued has been successful. It has resulted in an immense investment, somewhere between $100,000,000 and $200,000,000, but there is a growing belief that the end of this sort of development has about been reached, and that the next step will be a large measure of State or National aid and supervision.

Irrigation Bill. One of the best measures that became a law in the beginning of the 20th century was the scheme providing for the irrigation of the thousands of square miles of arid lands located in the Western States and Territories of the United States under government supervision, embodied in the bill known as the Irrigation Bill. The bill is based on the idea that the proceeds of sales of public lands shall be assigned from year to

year to the building of irrigation works under contracts approved by the Secretary of the Interior, but only when there is sufficient money on hand to insure the completion of the work. It is estimated that during the 30 years following 1902 at least $150,000,000 from the proceeds of the sale of lands will be available without further appropriations for public irrigation works.

The effect of the bill should be to encourage the settlement of the great wastes in a few of the States and greatly to increase their agricultural products. The Department of the Interior is not limited to any particular plan of securing the requisite supply of water for irrigation purposes, but must conform to the State laws bearing on this subject in providing for any given plan.

Irritant, in pharmacy, that which produces irritation or excitement of any muscle, nerve, or any organ or part of the body.

Irving, Sir Henry, an English actor; born in Keinton, England, Feb. 6, 1838. His family name was Brodribb, which was changed to Irving by royal patent. His roles include Mephistopheles, Hamlet, Coriolanus, King Lear, and a repertory that has been presented not only in England, but in the United States, Australia, and France. He was knighted in 1895. He has published an edition of Shakespeare.

Irving, John Beaufain, an American artist; born in Charleston, S. C., Nov. 26, 1825; received a collegiate education; studied art in Dusseldorf under Leutze. He died in New York city, April 20, 1877.

Irving, Pierre Munroe, an American lawyer; born in 1803; nephew of Washington Irving. In 1826, at the request of his uncle, he took charge of publishing the "Life of Columbus" in London; was subsequently literary assistant to his uncle. He was the author of "The Life and Letters of Washington Irving." Died in New York city, Feb. 11, 1876.

Irving, Washington, an American author; born April 3, 1783, in New York, where his father had emigrated from Scotland before the Revolution. He was originally educated for the legal profession and in 1806 was called to the New York bar, but his tastes were all in the direction of literature, in which field he made his first appearance by the publication in 1802 of the "Letters of Jonathan Oldstyle," in the New York "Morning Chronicle," a journal edited by his brother, Dr. Peter Irving. Throughout 1807 he acted as principal contributor to the periodical of "Salamagundi," which terminated in January, 1808, and in December, 1809, appeared his celebrated "History of New York, by Diedrich Knickerbocker." During the war with Great Britain in 1812–1815 he edited the "Analectic Magazine" in Philadelphia, and acted also for a time as aide-de-camp and military secretary to the governor of the State of New York.

In May, 1815, he embarked for England, where he commenced in 1818 the series of papers entitled "The Sketch-book," which were transmitted for publication to New York. Up to 1832 Mr. Irving continued to reside in Europe. During this period were composed some of his most famed literary works. In the spring of 1832 he returned to New York. In 1842 he became United States minister to Spain, and continued in this office till 1846, when he returned home. He died in "Sunnyside," N. Y., Nov. 28, 1859.

Isabella of Castile, daughter of John, 2d king of Castile; born in 1450. By her marriage, in 1469, with Ferdinand, 5th king of Aragon, the two crowns were united. The subsequent conquest of Granada and expulsion of the Moors left Ferdinand and Isabella the first sovereigns of united Spain. Isabella was a princess of remarkable abilities and such rare domestic virtues that her life and conduct became the pattern and example to all the queens and married ladies of the age. It was through Isabella's exertions and influence that Columbus obtained the small armament that enabled him to reach the New World. She died in 1504. Her character is deeply stained by her presence at the cruel burning alive of helpless Jewish men and women on account of their religion.

Isabella II., Queen of Spain; born in Madrid in 1830. The Salic law, which had previously been in force in Spain, was repealed by the Cortes in

order that she might inherit the crown. The death of her father in 1833 advanced Isabella at the age of three years to the throne. Her uncle, Don Carlos, refused to take the oaths of allegiance, and a large portion of the Spanish people supported Don Carlos in his treason, and a civil war at once broke out: which, after raging for nearly seven years, was finally terminated in 1840 by the defeat of the Carlists and expulsion of their chiefs and leaders. At the age of 13 Isabella was declared of age, and at 16 was married to her cousin Don Francisco de Assis. Dethroned by the revolution of September, 1868, Isabella left Spain, accompanied in her flight by the king-consort and her four younger children, and took refuge in France. After 1846, when she was married against her will to a man said to be unfit for the conjugal state, the private character of Isabella was exposed to considerable censure and scandal. She lives in Paris.

Isaiah, one of the greatest of the Hebrew prophets. He was born probably between 788 and 783 B. C. He married a woman to whom, as to him, prophetic gifts were given. Isaiah exerted great influence at the court of Jerusalem under Ahaz, and yet more under Hezekiah. He was contemporary with Amos, Hosea, Micah, and perhaps with Joel. Besides his prophecies, he wrote also biographies or histories of Uzziah, and Hezekiah. Tradition says that he was sawn asunder by order of King Manasseh, his tragic fate, it is supposed, being alluded to in Heb. xi: 37.

Ishim, a town in Siberia, important as a trade center. It is the oldest of Siberian towns. A river and a territory adjacent likewise bear the name.

Ishmael, a son of Abraham, by Hagar, who on the birth of Isaac, son of Sarah, was sent forth from his father's house with his mother. After dwelling in the desert for a long time, he became a great hunter and mighty warrior. The Arabs regarded Ishmael as the father of their nation and the author of their language. He lived 137 years.

Ishmaelites, Ismaelites, or **Ismaelians,** a Mohammedan sect originating in the 1st century of the Hegira, and deriving its name from Ishmael or Ismael, one of Ali's descendants. From the 8th to the 12th century they were powerful in the East, and distributed themselves over Irak, Syria, Persia, and Egypt.

Isinglass, a substance that is almost wholly gelatine, 100 grains of good dry isinglass containing rather more than 98 of matter soluble in water. It is obtained principally from Russia, but considerable quantities are also exported from North America, Brazil, and the East Indies. The American isinglass is obtained from the cod, sturgeon, hake, etc.; and the sounds of a great many fish produce it.

Isis, the principal goddess of the Egyptians, the symbol of nature or pantheistic divinity, the mother and nurse of all things. According to the account of Herodotus the Egyptians represented Isis under the form of a woman, with the horns of a cow, as the cow was sacred to her.

Islam, the proper name of the Mohammedan religion; designating complete and entire submission of body and soul to God, His will and His service, as well as to all those articles of faith, commands, and ordinances ordained by Mohammed the prophet. The word islam is sometimes figuratively applied to the whole Mohammedan world.

Island No. 10, an island in the Mississippi river, at the W. extremity of Kentucky, on the border of Tennessee, about 40 miles below Columbus. It was captured by the Union forces under General Pope in April, 1862.

Isle of Man, in the Irish Channel, equi-distant from England, Scotland, and Ireland. Area, 220 square miles; population 55,608. Castletown is the ancient capital, but Douglas (pop. 15,719) is the chief town and the seat of government. There are peculiar breeds of ponies, cattle, cats, etc. Industries are farming, fishing, mining of lead, copper, iron, zinc, and reception of tourists. The Manx people are a distinct Celtic nationality, with a considerable admixture of Scandinavian. The island has home rule.

Isle of Pines (Isla de Pinos), a small island off Cuba, to which it historically belongs, though in 1900 the United States gave unofficial expres-

sion to the policy of its acquisition as a coaling station; area, about 840 square miles; pop. 3,199.

Isle of Wight, with the exception of the Isle of Man the largest island in the English seas, lies off the S. coast of the kingdom, separated from Hampshire by the Solent channel. Its extreme length, E. to W. from the Foreland to the Needles, is about 23 miles, and its extreme breadth, N. to S., Cowes to St. Catharine's Point, is about 13 miles. The late Queen Victoria had a residence on the Isle of Wight. The area is about 145 square miles.

Isle Royale, an island belonging to Michigan, in Lake Superior, 45 miles long, 9 miles wide; area, 229 square miles. The shores are generally rocky and broken. There are extensive veins of native copper, many of which have been worked in prehistoric times, as they are still.

Ismail Pasha, a Khedive of Egypt, son of Ibrahim Pasha and grandson of Mehemet Ali; born in Cairo in 1830. He succeeded Said Pasha as viceroy in 1863. In 1867 he acquired from the Porte the title of Khedive. Under his mismanagement the country became so involved in debt that he was forced to abdicate. This he did, his son taking his place. He died in Constantinople, March 2, 1895.

Isocrates, a Greek orator and rhetorician; born in Athens in 436 B. C. He opened a school of oratory, the fame of which soon filled all Greece, in consequence of the exceptional attainments of its graduates.

Isothermal Lines, lines on a globe or map passing over places in which the mean general temperature is the same. Humboldt first generalized the observations and collected the facts bearing on isothermal lines.

Ispahan, a city of Persia, and formerly the capital of that empire. It was once so extensive and populous that the Persians said of it, "Ispahan is half the world." It is situated in the province Irak-Ajemi, of which it is the capital. The city, which was at the height of its glory during the reign of Shah Abbas in the 17th century, now presents little beyond the magnificent ruins of its former greatness. It stands in the midst of an extensive plain, abundantly watered by the Zenderood. The manufacture of all kinds of woven fabrics, from the most costly gold brocade of figured velvet to the most ordinary calico or coarse cotton, is pursued on an extensive scale; many hands are also employed in making trinkets and jewelry, paper, papier-mache goods, arms, steel sword blades, glass and earthenware. Ispahan is the chief commercial emporium of Persia. The inhabitants are considered the best artificers in Persia, and education is very general. Ispahan, under the caliphs of Bagdad, became the capital of Irak, and under Shah Abbas the metropolis of Persia. Under this great monarch, Ispahan was a city 24 miles in circuit, and contained 160 mosques, 48 colleges, 1,800 caravanserais, 273 public baths, and 12 cemeteries, and was inhabited by 600,000 people. Pop. about 80,000.

Israel, the name divinely given to Jacob during the scene at Peniel or Penuel as a memorial that, as a prince, he had power with God and with men and had prevailed. Also the Jewish people; a contraction for Children of Israel or House of Israel. Also a religious sect which appeared for the first time in England in 1883.

Isthmian Canal. When President Roosevelt affixed his signature to the bill passed by Congress providing for the construction of a canal across the Isthmus of Panama, "the dream of the navigator," as the building of a canal to connect the Atlantic with the Pacific Ocean has been called, gained such substance that a comparatively few years will suffice to bring it to a reality.

The thought of uniting the two oceans by means of a canal across the isthmus sprang up the moment the conviction was reached that the passage which from the days of Columbus was thought to exist toward the Southern sea had no existence in fact. The first survey with a view to determining the feasibility of making a connection between the two oceans, however, was not carried out till 1581. In that year, in obedience to instructions, Capt. Antonio Pereira, Governor of Costa Rica, organized an expedition and explored the route by way of the San Juan river, the lake, and the rivers emptying into Gulf Nicoya, Costa

Rica. Thirty-nine years later Diego de Mercado submitted to King Philip of Spain an elaborate report in favor of the construction of a canal over that route which is known as the Nicaragua route.

Various Panama canal projects were conceived later, one of which was the bold conception of James B. Eads, an American engineer, to construct at Tehuantepec a railroad which would be able to carry the largest ships from ocean to ocean.

The history of the isthmian canal project in recent years shows that while the sentiment in favor of the construction of a canal has grown steadily, faith in the Nicaragua route as the most practicable has suffered a steady decline. This decline has been due more than anything else, perhaps, to the uncertainty of the cost of carrying out the project. The first estimate of the Maritime Company was $67,000,000. After doing more or less work on the canal the Maritime Company ceased operations in 1893 for lack of funds. In 1895 Congress appointed the Ludlow Commission to examine and report on the Maritime Company's project. This commission placed the cost of the canal's completion at $133,472,893. The Walker Commission, appointed subsequently, increased the estimate to $140,000,000.

When the commission that was appointed by President McKinley in 1899 to examine the American isthmus at every available point in order to determine the most practicable and feasible route for a ship canal went to Paris to examine the plans of the Panama Company, the company, realizing the improbability of its being able to raise sufficient funds in France to carry the enterprise to a successful conclusion, decided to face competition with the Nicaragua project before the Congress of the United States. At a meeting of the directors it was decided to transfer all of the property of the company, its rights and powers, together with those of the American auxiliary company, to a new American company. That company was organized under the laws of the State of New Jersey, with the title of the Panama Canal Company of America. The capital was fixed at $30,000,000 and the company was authorized to increase the amount if necessary. The arrangement which it made with the French company in taking over its rights, was to pay the shareholders of that company partly in money, but mainly in shares of the American company. The French company retains only an equity in the shape of a lien on a specified percentage of the profits remaining after the payment of all operating expenses and fixed charges and a dividend to the stockholders of the new company. An international commission of American, French, German, Russian, and English engineers, consulted by the French company in drawing up its plans, estimated the cost of completing the Panama canal at $102,000,000, if the two locks were made of a certain width, and $125,000,000 if the locks were wider. The extended concession from the Colombian government runs till Oct. 31, 1910, a bonus of 3,000,000 francs having been paid to secure the extension.

The price fixed that the United States government should pay the Panama Canal Company of America for its rights and privileges was $40,000,000. The cost of the completed canal was estimated at $184,233,358. The Panama canal, it is said, presents one really serious engineering difficulty, and that is the control of the waters of the Chagres river. The river has a maximum flow of 75,000 cubic feet a second. By the erection of dams it is proposed to conserve the waters of the river in a summit lake. The length of the route of the Panama canal is 46 miles, and the estimated time of transit for an ordinary ship is 14 hours.

The treaty with Colombia providing for the construction of the Panama Canal by the United States, failed of approval by the Colombian Congress, and expired by limitation, October, 1903.

Isthmus, in geography, a narrow neck of land joining two larger portions, as the Isthmus of Suez and the Isthmus of Panama.

Italian Architecture, a style founded on the old Roman orders, and the characteristic features of the ancient buildings of Rome.

Italy, a kingdom in Southern Europe, consisting in the main of a large peninsula stretching S. between the Adriatic Sea and the W. part of the

Mediterranean, but also including a considerable portion of the mainland and some of the adjacent islands. It is bounded on the N. by the Alps, which separate it from Austria and Switzerland, except at the district lying to the N. of Lake Garda, where its frontier does not follow the line of the Alps; on the W. by France, from which it is separated along the larger part of the frontier line by the Graian, Cottian, and part of the Maritime Alps, and by the Mediterranean; on the S. by the Gulf of Taranto and the Mediterranean; and on the E. by the Adriatic and a portion of the Austro-Hungarian empire. It is comprised between lat. 36° 40′ and 46° 40′ N., and between lon. 6° 35′ and 18° 35′ E. The principal islands belonging to it are Sicily and Sardinia: the others include the Lipari Islands, Capri, Ischia, Giglio, Monte Cristo, Elba, etc. Rome is the capital.

For administrative purposes the kingdom of Italy is divided into 69 provinces, which are grouped under 16 departments, some of which consist of only a single province. The provinces are subdivided into circles (in Venetia and the province of Mantua called districts).

The total area of Italy is 110,646 square miles, and the population 32,449,754. This includes Sicily and the island of Sardinia. Italy also possesses the colony of Eritrea with 670 miles of coast line on the African shore of the Red Sea, and some territory in Somaliland. The total area of these possessions is about 188,000 square miles, with a population of about 850,000.

The fauna of Italy differs little from that of the other countries of Europe situated in the same latitude. Its mountains afford a retreat to the lynx, chamois, brown bear, and wolf, while among those of Sardinia is found the mouffion or wild sheep. The porcupine is very generally found in the Apennines. The pale red fox (different from the common species) and the blind mole are also found. The birds, which are very numerous, comprise most of the species of Central Europe, a large number of those belonging to the E. part of Europe, and some African birds, especially the Egyptian vulture. Among the reptiles are the common viper and the asp; other noxious creatures are the scorpion and the tarantula. The marine fauna of Italy is also very comprehensive, including all the varieties of fish which are found in the Mediterranean. The fisheries embrace anchovies, sardines, tunnies, swordfish, etc. The coral polyp (among other species the madrepore) is also of economic importance, there being a large number of persons employed in the coral fishery.

The natural productions of the soil of Italy are as various as its climate. In the Alpine regions all the plants belonging to cold climates flourish, while the S. regions possess a real tropical flora. Among trees are pines and firs, especially the stone pine, with edible seeds: the evergreen and other oaks, the chestnut, the poplar, etc. The olive, mulberry, fig, orange, citron, pomegranate, pistachio, jujube, and date grow in the S. and in suitable places in the N. In the extreme S. the cotton plant, sugar cane, Indian fig, agave, and other tropical plants are cultivated. Everywhere is seen the vine. The other vegetable products are common to Italy and the rest of Europe. Agriculture forms the chief support of the population, and the land is very productive in almost all parts of the kingdom.

Since the consolidation of the Italian kingdom the manufactures of the country have made considerable advances, especially in the department of Tuscany and the Northern provinces. They now afford support to 13 per cent. of the whole population.

The rearing of silkworms is more largely carried on in Italy than in any other country in Europe. Over 2,000,000 spindles are employed in spinning the silk, and the weaving is a very extensive branch of manufacture in Como, Genoa, Caserta, Milan, Turin, Florence, and Naples. Silk industries employ over 170,000 hands.

The constitution of the kingdom of Italy is a limited monarchy. It is based on the fundamental statute of March 4, 1848, fixing that of the kingdom of Sardinia. The throne is hereditary in the male line of the royal house of Savoy. The king attains his majority on completing his 18th year. He exercises the power of legislation only in conjunction with a National Parliament, consisting of two chambers. The first chamber is called the

senate, and is composed of the princes of the blood, and an indefinite number of members appointed for life by the king. These last must be above 40 years of age, and must be distinguished either by holding or having held some high office either in Church or State, or by eminent services in literature, science, art, or any other pursuit tending to the benefit of the nation, or they must have paid for at least three years a sum not less than 3,000 lire in direct taxes. At present the senate numbers about 334 members. The second chamber is called the chamber of deputies, and consists of 508 members, who are elected by a majority of all the citizens above 21 years of age who are in the enjoyment of civil and political rights, can read and write, and who pay direct taxes to the State or the provincial administration to the amount of 20 lire (1 lire = 19.3 cents) yearly. Certain persons enjoy the franchise independently of the taxation test, such as members of learned academies and of chambers of commerce, professors, State officials, members of knightly orders, doctors, advocates, etc. For the election of the members of the chamber of deputies the whole country is divided into electoral colleges or districts. Any one who has the right of voting and has completed his 30th year may be elected, unless he be a clergyman or an officer of State. Some officers of State, however, may be elected.

The executive power of the State is exercised by the king through responsible ministers forming a council of ministers. In addition to this there is a State Council possessing consultative powers, and authorized to decide on questions of competence arising between the administrative departments and the law courts, as well as in cases of dispute between the State and its creditors. There are 11 departments in the government: (1) the ministry of foreign affairs, to which is attached the diplomatic council; (2) the ministry of the interior, with the supreme sanitary council, and the command of the national guard; (3) the ministry of justice and ecclesiastical affairs; (4) the ministry of finance, with the permanent council of finance; (5) the ministry of the treasury; (6) the ministry of war; (7) the ministry of marine, with the supreme council for naval affairs; (8) the ministry of public instruction, with the supreme council of instruction; (9) the ministry of public works and the supreme council for public works; (10) the ministry of agriculture, manufactures, and commerce, with the councils for trade and manufactures, agriculture, mines, and woods and forests; and (11) the ministry of posts and telegraphs. The court of accounts of the kingdom of Italy occupies an independent position. For the administration of the law there are, besides numerous courts of first instance, 161 civil tribunals and the tribunals of correction, 92 assize courts, 24 courts of appeal, and 4 courts of cassation (at Turin, Florence, Naples, and Rome).

By the law of June 7, 1875, supplemented by subsequent enactments, all men capable of bearing arms are under obligation of military service from the end of their 20th to the end of their 39th year. The forces are divided into three main branches: the standing army, the mobile militia, and the territorial militia.

According to the provisions of the fundamental statute the Roman Catholic is the State religion, but all other creeds are tolerated, and adherents of all religions have equal municipal and political rights. The spiritual head of the Roman Catholic Church, the Pope, has his seat in Rome. His prerogatives are regulated by the law of May 13, 1871, which also determines the relation between Church and State. By this law the person of the Pope is pronounced sacred and inviolable. The Italian government pays sovereign honors to the Pope, and guarantees him a yearly dotation of 1,225,000 lire (about $645,000).

Compulsory education is enforced by the law of July 15, 1877, for all children who have completed their sixth year, and do not receive adequate instruction either at their homes or in private schools. Attendance is obligatory at the rudimentary schools in the commune for such children up to their ninth year, and in case of failure to pass the requisite examination they may be detained a year longer. The elementary communal schools are entirely supported by the municipalities, which nominate and pay the teachers, and carry out the educational laws under the supervision of the

state school inspectors. The subjects of compulsory instruction are reading, writing, arithmetic, the metric system, the rudiments of Latin, and the first duties of a man and a citizen. Religious instruction is not obligatory.

The present monetary system of Italy is the same as that of France, the lira being equal to the franc, and divided into 100 centesimi, as the franc is into 100 centimes. The lira is accordingly equal to about 19 cents. The weights and measures of Italy have also been adopted from France, and in their case the names also have been adopted, with only such modifications as are necessary to give them an Italian form.

Itasca Lake, in Beltrami and Cass counties, Minn.; first seen by William Morrison, a fur trader, in 1804; was explored by Henry Rowe Schoolcraft in 1832. It is the first considerable gathering of the furthermost streams which form the Mississippi, one of these being in volume entitled to be called the young Mississippi; the lake therefore is justly considered the source of the great river.

Ithaca, now Thiaki, one of the Ionian Islands, on the W. of Greece, between the mainland and Cephalonia, 17 miles long, and not above 4 broad. It is rugged and uneven, and divided into two nearly equal parts connected by a narrow isthmus. The inhabitants are industrious agriculturists and mariners, and build and fit out a considerable number of vessels. They seem to be of pure Greek race, and the women are famed for their beauty. Ithaca was the royal seat of Ulysses, and is minutely described in the Odyssey. Pop. about 11,000.

Ito, Marquis Hirobumi, a Japanese statesman; born in the province of Choshu, in 1840. In 1871 he visited the United States for the purpose of examining the coinage system, and on his return to Japan was successful in establishing a mint at Osaka. In 1878 he was transferred from the office of Minister of Public Works to the Home Office. He became prominent in the Japanese cabinet in 1886 and made many reforms. In 1897–1898 he made a tour of the United States and Europe. In the latter year he visited China to arrange an alliance between that country and his own, and in 1900, on the resignation of the Yamagata ministry, he was summoned by the Emperor to form a cabinet. He revisited the United States in 1901.

Iturbide, Augustin de, a Mexican soldier; born in Valladolid, Mexico, in 1787. On the breaking out of the revolutionary troubles in Mexico he joined the royalist party and displayed such valor and ability that in 1815 he rose to the chief command of the army, but latterly went over to the other side, quickly bore down all opposition, and became so popular that he proclaimed himself Emperor of Mexico in 1822. His reign was full of trouble and came to an end in less than a year by his abdication. He was arrested and shot, in Padilla, July 19, 1824.

Ivan, the name of two granddukes and four czars of Russia. The best known, Ivan IV. (1530–1584), commonly called Ivan the Terrible, reigned from 1533. He was the first Russian sovereign to be crowned as Czar. He subdued Kazan and Astrakhan, and from his reign dates the first annexation of Siberia. He concluded a commercial treaty with Queen Elizabeth after the English had discovered (1533) the way to Archangel by sea. But his hand fell with merciless cruelty upon the boyars of his kingdom, and upon some of his towns, as Moscow, Tver, and Novgorod. He was guilty of the most horrible cruelties, and exterminated whole families. He has left a singular document asking divine mercy for his victims. Ivan died of sorrow for his son, whom three years before he had slain in a mad fit of rage.

Ives, Frederic Eugene, an American inventor; born in Litchfield, Conn., Feb. 17, 1856; received a public school education; was director of the photographic laboratory at Cornell University in 1874–1878. His inventions include the process of half-tone photo-engraving (1878); the three-color printing process in the typographic press; etc.

Ivory, the osseous matter of the tusks of the elephant, and of the teeth or tusks of the hippopotamus, walrus, and narwhal. Ivory is esteemed for its beautiful white or cream color, its hardness, the fineness of its grain, and its susceptibility of a high polish.

Ivory Black, a name for burnt bone, which forms a mixture of charcoal and phosphate of lime. Like other forms of animal charcoal, it is very effective in depriving certain substances of their color and odor.

Ivory Coast, a part of the N. coast of the Gulf of Guinea, West Africa, embraces the districts between Cape Palmas and the river Assini. Its W. portion belongs to Liberia; its E., now counted as part of the Gold Coast, is shared between Great Britain and France.

Ivory Palm, a low growing, palm-like plant, native of the warmer parts of South America.

Ivry, a village of over 1,100 inhabitants in the French department of Eure. On the Plain of Ivry was fought, March 14, 1590, the famous battle between Henry of Navarre and the armies of the League.

Ivy, a climbing plant. The leaves are smooth and shining, varying much in form, from oval entire to three and five lobed; and their perpetual verdure gives the plant a beautiful appearance. The flowers are greenish and inconspicuous, disposed in globose umbels, and are succeeded by deep green or almost blackish berries. The ivy has been celebrated from remote antiquity, and was held sacred in some countries, as Greece and Egypt.

Ixion, a treacherous King of Thessaly, who, having basely destroyed his father-in-law, was so execrated by his subjects that Jupiter in pity took him to heaven; but Ixion becoming enamored of Juno, Jupiter hurled him with his thunder into the infernal regions and had him chained to a wheel in perpetual motion, his punishment thus being eternal.

Izard, Ralph, an American patriot; born in 1742. He was very wealthy and during the Revolution pledged his estate to buy ships of war. He was the first United States Senator from South Carolina. He died in 1804.

J

J, the 10th letter and the 7th consonant of the English alphabet. The character j designates very different sounds in the different languages. In English it has the same sound as g in genius.

Jabalpur, chief town of Jabalpur district, Central Provinces, India. Jabalpur is one of the most important railway stations in India. It is the second commercial town in the Central Provinces, has a trade worth about $10,000,000 annually. Pop. (1900) est. 76,000. The district of Jabalpur has an area of 3,918 square miles, and a population of 687,233.

Jacamar, the name generally given to a sub-family of kingfishers. The jacamars have the bill less stout than the typical kingfisher. Their body also is more slender; the tail long. They are bright-colored birds, generally. They are found in the tropical parts of South America and in the West Indies.

Jacana, a wading bird: a genus of grallatores. They are very light birds; and the wide surface over which their toes extend enables them the more easily to procure their food, consisting of worms, small fishes, and insects, by walking on the leaves of aquatic plants which float on the water. Various species of the jacana are spread over the tropical regions.

Jacaranda Wood, a very hard, heavy, brown wood, also called rosewood — though not the true rosewood of commerce — from its faint, agreeable smell of roses. It is brought from South America.

Jacchus, monkeys of small size, commonly known as marmozets, ouistitis, and tamarins, with short muzzle, flesh colored face, and round head. The five fingers are armed with claws, except the thumbs of the posterior extremities, which have nails; fur very soft; tail full and handsome. Length of body about 8 inches; tail 11. General color olive-gray; head and shoulders nearly black; the tail and lower part of the back are annulated with pale gray; and two tufts of pale hair grow round the ears. They are squirrel-like in their habits, and omnivorous; feeding on roots, seeds, fruits, insects, snails, and young birds. Natives of Guiana and Brazil.

JACANA OF SOUTH AMERICA.

Jacitara, a lne palm, 50 or 60 feet long, with a stem as thin as a cane. It grows along the Amazon and the Rio Negro.

Jackal, an animal presenting a close affinity to the dog. It is yellowish-gray above, whiter underneath, the tail is bushy and at its extremity tip-

ped with black. The jackal inhabits the warm parts of Africa, Southern Asia, and Europe.

Jack Daw, or **Daw,** the smallest of crows, being but 13 inches in length. The general color is black, with a grayish shade on the margins of the feathers, the back and wings purplish; the crown of the head is glossy blue-black, forming a cap; the neck hoary-gray, the bill and feet black, the eye bluish-white. Both sexes colored alike.

Jack Rabbit, a large rabbit or hare found in the S. and W. of the United States.

Jackscrew, a lifting implement which acts by the rotation of a screw in a threaded socket.

Jackson, the name of a fort in Louisiana, on the Mississippi river, about 80 miles below New Orleans. During the Civil War, the place was strongly fortified by the Confederates in conjunction with the sister batteries of Fort St. Philip on the opposite side of the river, which latter was obstructed so effectually by hulks and chains as to close the passage. From April 20 to 25, 1862, the fleet under command of Commodore Farragut engaged both forts in a severe artillery duel, passed them with but comparatively small loss, and breaking through the river obstructions succeeded in reaching New Orleans.

Jackson, Andrew, an American statesman and soldier; 7th President of the United States; born in the Waxhaw Settlement, N. C., March 15, 1767. His father died before his birth. His education was very limited, and he was not given to study. A child at the time of the Revolution, he refused to black the boots of a British officer, who cruelly struck him with his sword. This Jackson never forgot. After serving a short apprenticeship with a saddler, at the age of 18 he entered a law office in Salisbury to prepare for the law. His practice was large and prosperous. In 1791 he married Mrs. Rachel Robards. Tennessee was admitted to the Union in 1796, and Jackson was sent as its Representative to Congress. He was elected to the Senate in 1797, but resigned his seat in 1798 to become judge of the Tennessee Supreme Court, where he served six years. When the War of 1812 broke out, he offered his services to Madison, then President, with 2,500 volunteers of Tennessee militia, of which he was commander-in-chief. In 1814 Jackson was made a Major-General and put in command of the Department of the South. He asked permission to drive the British out of Florida, where, by Spanish permission, they had established a base of operations. Failing to receive an answer because of the capture of Washington by the British, Jackson proceeded on his own responsibility. He repulsed the enemy at Mobile, took Pensacola by storm, and then marched to New Orleans, where he fortified the city. A force of 12,000 of Wellington's veterans, relieved by the victory of Waterloo for American service, landed below the city. Jackson had 6,000 men to meet them, but they were well protected by breastworks. The British general, Packenham, resolved to take the defenses by storm. Jackson's victory was complete. The British were repulsed in half an hour, with a loss of 2,600 men, Packenham himself being among the slain. This great and decisive victory, achieved with but the loss of eight men, coming in the wake of several reverses to the American cause, made Jackson the hero of the nation. When, in 1819, the United States purchased Florida, Jackson was appointed governor. In 1823 he was elected to the United States Senate. In 1824 he was nominated by the Federalist and by the Republican convention for the presidency. The election went to the House of Representatives, which chose John Quincy Adams. But in 1828 Jackson was again nominated, beating Adams by a large electoral and popular majority. His administration was memorable and stormy. He introduced the theory that "to the victors belong the spoils," and made wholesale removals of Federal officials to make room for his own appointees. South Carolina, under the lead of John C. Calhoun, the Vice-President, attempted to nullify the tariff law, calling a convention Nov. 19, 1833, which declared the law unconstitutional. Jackson sent a naval force under Farragut to Charleston harbor. He attacked the United States Bank, opposing the renewal of its charter, which would expire in 1836. He ve-

toed the bill renewing the charter. He was reëlected in 1832 by largely increased majorities. He succeeded in securing the removal of the public funds from the United States Bank to various state banks. After his second term of office as President, Jackson lived mostly in retirement at "The Hermitage" near Nashville, where he died June 8, 1845.

Jackson, Charles Thomas, an American scientist; born in Plymouth, Mass., June 21, 1805; was graduated at Harvard Medical College in 1829. He claimed to have been the first to point out, in 1832, the applicability of electricity to telegraphic use, and also claimed to have been the discoverer of the anæsthetic effects of the inhalation of ether in 1842; received the Monthly prize of 2,500 francs from the French Academy of Sciences in 1852. He died in Somerville, Mass., Aug. 28, 1880.

Jackson, Dugald Caleb, an American inventor; born in Kennett Square, Pa., Feb. 13, 1865; was graduated at the Pennsylvania State College in 1885, and studied engineering at Cornell University; became connected with Edison interests in 1889; later was made chief engineer of the central district of the Edison General Electric Company; designed and built many large lighting plants and electric railways. He is the author of "A Text-book on Electricity and Magnetism and the Construction of Dynamos" (1893); etc.

Jackson, Helen Maria Fiske Hunt, an American author; born in Amherst, Mass., Oct. 18, 1831; received an academic education; went with her husband to Colorado Springs, Colorado; became actively interested in the treatment of the Indians by the government, and strove to better their condition; was appointed a special commissioner to investigate the condition of the Mission Indians of California in 1833, and studied the history of the early Spanish missions. She died in San Francisco, Cal., Aug. 12, 1885.

Jackson, Howell Edmonds, an American jurist; born in Paris, Tenn., April 8, 1832. He was graduated at West Tennessee College in 1848; was elected United States Senator from Tennessee in 1881; appointed a United States Circuit Court judge in 1886, and a justice of the United States Supreme Court in 1893. He died in West Meade, Tenn., Aug. 8, 1895.

Jackson, Sheldon, an American educator; born in Minaville, N. Y., May 18, 1834; was graduated at Union College in 1855, and at Princeton Theological Seminary in 1858; ordained in the Presbyterian Church. He was made United States general agent for Alaska in 1885; introduced reindeer into that territory in 1891; special United States agent to influence Laplanders to colonize in Alaska in 1898. He was moderator of the General Assembly of the Presbyterian Church in 1897. In 1896 he presented $50,000 to the University of Utah.

Jackson, Thomas Jonathan, an American military officer; born in Clarksburg, Va., Jan. 21, 1824; was graduated at the United States Military Academy in 1846; served through the Mexican War with great distinction, winning promotions more rapidly than any other officer of his grade during that war. When the Civil War began, he was commissioned colonel in the Virginia forces; was placed in command of the Virginia brigade. Soon after he was commissioned Brigadier-General. In the first battle of Bull Run he won his new name "Stonewall" when Gen. Bernard E. Bee, in the crisis of the fight, shouted: "See, there is Jackson standing like a stonewall; rally on the Virginians!" In recognition of his gallantry he was promoted Major-General and placed in command of the district that included the Shenandoah valley and the section of Virginia N. W. of it. During the winter he drove the National forces out of his district. In March, 1862, he fell back before Banks' army of 35,000 men, moved up the valley and took a strong position in Swift Run Gap. Then followed in rapid succession the uniting of Ewell's division with his at Luray, the driving in of Banks' flank at Front Royal, the cutting of his retreating column at Middletown, and on May 25, the rout of Banks' army from the heights of Winchester. His capture of Harper's Ferry with 11,000 prisoners, 13,000 stand of small arms, 73 pieces of artillery, and large quantities of provisions and stores of every description, and his

conduct on the field of Sharpsburg, all added greatly to his fame.

He was promoted Lieutenant-General in October, 1862; and held the extreme right of Lee's army at Fredericksburg, where he repelled the attack of Franklin. Toward the end of April, 1863, he was sent with 22,000 men to make a march to Hooker's flank and rear. This was brilliantly executed and Jackson routed that flank of Hooker's army, and was proceeding to cut him off from his line of retreat and take a position where Hooker would have been compelled to attack him in position, when in returning from one of those bold reconnoissances which he so frequently made, his party was mistaken for the enemy and fired on by his own men and he was very severely wounded. His left arm was amputated, his other wounds dressed, and he was improving hopefully, when pneumonia suddenly developed and caused his death in Guinea Station, Va., May 10, 1863.

Jacobean Architecture, a term applied to the later style of Elizabethan architecture from its prevailing in the time of James I. (Latin, Jacobus, James). It differed from the pure Elizabethan chiefly in having a greater admixture of debased Italian forms.

Jacobi, Friedrich Heinrich, a German philosopher and poet; born in Dusseldorf, in 1743. His expositions are distinguished by acuteness, and adorned by so remarkable a grace that his disciples have named him the modern Plato. He died in 1817.

Jacobi, Karl Gustav Jakob, a German mathematician; born in Potsdam, Dec. 10, 1804. Jacobi excelled in analytical mathematics; his name is best known from his discovery of elliptic functions. He died in Berlin, Feb. 18, 1851.

Jacobi, Moritz Hermann, a German physicist; born in Potsdam, Prussia, Sept. 21, 1801. He invented the process of electrotyping in 1839, and the application of electromagnetism as a motive power. He died in St. Petersburg, March 10, 1874.

Jacobin Club, a political organization which bore a prominent part in the French Revolution. It was formed by some distinguished members of the First Assembly, particularly from Brittany, where revolutionary sentiments ran high. They took at first the name of Friends of the Revolution; but, as at the end of 1789 they held their meetings in the hall of a suppressed Jacobin monastery in the Rue Saint Honore, the name of Jacobins, at first familiarly given to them, was finally assumed by themselves. The history of the Jacobin Club is, in effect, the history of the Revolution. It contained at one time more than 2,500 members, and corresponded with more than 400 affiliated societies in France. After the destruction of the Girondists under the Convention, the club was again exclusively governed by the more violent among its own members till the downfall of Robespierre. After that period it became unpopular; and its members having attempted an insurrection on behalf of the subdued Terrorists, Nov. 11, 1794, the meeting was dispersed by force and the club finally suppressed.

Jacobite, a term first applied in England to the party which adhered to James II. after the Revolution of 1688, and afterward to those who continued to maintain sentiments of loyalty toward the house of Stuart, and sought to secure the restoration of that family to the English throne.

In ecclesiastical history, a Christian sect which arose during the 5th century and maintained that Christ had but one nature. They were thus named from Jacob Baradæus, Bishop of Edessa and apostle of the East, who restored the sect about 545. They finally ceased to exist about 1247.

Jacobs, Henry Eyster, an American clergyman; born in Gettysburg, Pa., Nov. 10, 1844. He was graduated at Pennsylvania College and Lutheran Theological Seminary. He held important professorships and after 1883 was dean of the faculty at Lutheran Theological Seminary. He wrote "Life of Martin Luther," etc.

Jacob's Ladder, a herbaceous perennial plant found in the temperate parts of North America. It is also found in Europe and Asia. Great medicinal virtues were once ascribed to it, but the only quality which it seems to possess is a slight astringency.

Jacobson, John Christian, an American clergyman; born in Denmark in 1795. He came to the United States in 1816, was a successful Moravian pioneer; and was consecrated bishop in 1854. He died in 1870.

Jacquard, Joseph Marie, a French inventor; born in Lyons in 1752. His parents were silk weavers and he learned the same trade. After a long period of hardship, during which he shared in some of the campaigns of the French Revolution, he made his name famous by the invention of his new loom, which was publicly exhibited in 1801. He died in 1834.

Jacquard Loom, a loom for weaving figured goods in various colors.

Jacquemont, Victor, a French botanist; born in Paris, Aug. 8, 1801; studied botany under Adrien de Jussieu; visited North America, Haiti, England, and the East Indies twice, penetrating on his last visit the Chinese Tartary. He died in Bombay, Dec. 7, 1832.

Jacquerie, a name popularly given to a revolt of the French peasantry against the nobility, which took place while King John was a prisoner in England in 1356. Jacques Bonhomme was a term of derision applied by the nobles to the peasants, from which the insurrection took its name. It was suppressed after some weeks.

Jade, a name applied to about 150 varieties of ornamental stones, but should be properly restricted to the mineral nephrite, so called from the Greek nephros because it was supposed by the ancients to have virtue in renal diseases. True jade is a native silicate of calcium and magnesium, tough, and of various shades of green, yellowish-gray, and greenish-white. It is principally found in China, Siberia, New Zealand, and in some of the islands of the South Pacific, while its occurrence has also been reported in Alaska.

Jaffa, or **Joppa,** a town on the sea coast of Syria, 33 miles N. W. of Jerusalem. Hence Jonah sailed for Tarshish; here Peter had his vision. Under Constantine the place, as the great landing place of the Crusaders, was taken and retaken by Christian and Moslem. In 1799 Napoleon stormed it and massacred his prisoners; in 1832 it was taken by Mehemet Ali, and restored to the Turks by British help. Pop. (1900) est. 42,500.

Jager, Oskar, a German historian; born in Stuttgart, Oct. 26, 1830. As an educator he attained prestige and official position; while his "History of Recent Times, from the Congress of Vienna to Our Own Day" (1874–1875) is an acknowledged masterpiece.

Jagersfontein Excelsior, The, the largest known diamond in existence; found in the mine of the Jagersfontein Company, Orange Free State, South Africa, June 2, 1893, and now in London, England; weight, 971 carats; color, blue white. It is almost perfect.

Jaggar, Thomas Augustus, an American clergyman; born in New York city, June 2, 1839; graduated at the General Theological Seminary; ordained deacon in the Protestant Episcopal Church in 1860; consecrated Bishop of Southern Ohio in May, 1875.

Jaggery, a coarse brown sugar made in the East Indies by the evaporation of the juice of several species of palms. It is chemically the same as cane sugar.

Jaguar, a ferocious looking feline animal, a little larger than a leopard, which it resembles in color, except that in the jaguar the spots are arranged in larger and more definite groups. It is found in the S. part of the United States, through Mexico, Central America, and Brazil, as far S. as Paraguay.

Jains, or **Jainas,** the name of a religious sect among the Hindus. They are very numerous in the Southern and Western provinces of Hindustan, and are principally engaged in commerce. It is believed that Jainism is of much later origin than Buddhism or Brahmanism, and that it did not rise into importance till the 8th and 9th centuries of our era. It seems to partake of both of these earlier worships, and was probably an attempt to reconcile Buddhism with Brahmanism. They number about 1,500,000, and are found throughout Hindustan.

Jalap (so called from Jalapa, in Mexico, whence it is imported), the name given to the tuberous roots of a

twining herbaceous plant growing naturally on the E. declivities of the Mexican Andes at an elevation of from 5,000 to 8,000 feet. The jalap of commerce consists of irregular ovoid dark-brown roots, varying from the size of an egg to that of a hazel nut, but occasionally as large as a man's fist.

Jamaica, one of the West India Islands, 80 or 90 miles S. of Cuba, the third in extent and the most valuable of those belonging to Great Britain; 146 miles in length E. to W., and 49 miles broad at the widest part; area, 4,200 square miles; pop. (1898) est. 745,104. It is divided politically into three counties — Cornwall, Middlesex, and Surrey; its capital is Kingston; pop. (1898) est. 48,500. The island as a whole is very beautiful, and much of it is fertile. The coast is indented with a number of good harbors, of which Port Royal or the harbor of Kingston is the most considerable. The interior is traversed by lofty mountains in all directions; the principal chain, called the Blue Mountains, reaching the height of 7,270 feet. The declivities are steep, and covered with stately forests. Jamaica is well watered, having numerous rivers and springs. Earthquakes of a violent character have been frequent. The climate in the districts along the coast is, in most places, exceedingly hot, but is not on the whole unhealthy; on the high lands the air is temperate. There are two rainy and two dry seasons. Among the indigenous forest trees are mahogany, lignum vitæ, ironwood, logwood, braziletto, etc. The native fruits are numerous, and many of them delicious; they include the plantain, guava, custard apple, pine-apple, sour sop, sweet sop, papaw, cashew apple, etc. The orange, lime, lemon, mango, grape, bread fruit tree, and cinnamon tree have all been naturalized in the island. The chief cultivated vegetable products are sugar, coffee, maize, pimento, bananas, and other fruits, ginger, arrow root. Sweet potatoes, plantains, and bananas form the chief food of the blacks. The cinchona tree has been introduced, and is spreading. Of wild animals only the agouti and monkey are numerous. Domestic fowls thrive well, and cattle-raising has become profitable. Fish abound in the sea and rivers.

The exports and imports have each an average value of over $8,000,000, sugar, rum, coffee, dyewoods, fruit, and pimento being the chief of the former, and clothing and other manufactured goods of the latter. The government is vested in the governor, assisted by a privy council, and a legislative council composed of 29 members, 14 elected, the others nominated or ex officio. Education is rapidly extending; but the general state of morality seems to be low.

Jamaica was discovered by Columbus in 1494, in his second expedition to the New World. In half a century the cruelty of the Spanish conquerors exterminated the natives. It was taken by Cromwell in 1655, and ceded to England by the treaty of Madrid in 1670, and has since then remained a British possession.

Jamaica Bay, an inlet of the Atlantic Ocean S. of Long Island, N. Y.

James, a name of two, if not three, persons mentioned in the New Testament. (1) James, the son of Zebedee, and brother of the Evangelist John. Their occupation was that of fishermen. We find James, John, and Peter associated on several interesting occasions in the Saviour's life. James was the first martyr among the apostles. He is the patron saint of Spain, there being a groundless legend of his having planted the Gospel in that country. (2) James, the son of Alphæus, one of the 12 apostles. His mother's name was Mary; in the latter passage he is called James the Less, either as being younger than James the son of Zebedee, or on account of his low stature. (3) James, "the brother of the Lord" (Gal. i: 18). Whether this James is identical with the son of Alphæus is a question which cannot be considered as decided. It is probable, however, that he was a different person.

Epistle of St. James.— The first of the general epistles. The apostle James, the son of Zebedee, died too early to have been its author. It was penned by either James, the son of Alphæus, or James the brother of our Lord, if the two were different; by the apostle who bore both designations if they were the same. It was addressed to the 12 tribes scattered

abroad, i. e., to the Jewish converts to Christianity beyond the limits of Palestine. Its date is uncertain.

James IV., King of Scotland, born March 17, 1472, was son of James III. by Margaret, daughter of the King of Denmark, and was thus in his 16th year when he succeeded to the throne. In 1503 he married Margaret, daughter of Henry VII., King of England, and thus for a time put an end to the unnatural hostility between the two countries.

Unfortunately, however, on the accession of Henry VIII. to the English crown in 1509, the relations between the two courts became less friendly, and at length strained relations were followed by open war in 1513. James set out for the South at the head of an army of 60,000 men. He crossed the border, took several castles, and had occupied a strong position, when the Earl of Surrey, with an army about equal to his own, but better trained, advanced to oppose him. The battle fought on Sept. 9, 1513, and only too well known as that of Flodden Field, terminated after a sanguinary conflict of three hours in the total defeat with heavy loss of the Scots. James and a large portion of his nobility were among the slain. He died in the 42d year of his age and 26th of his reign. His marriage to Margaret resulted in the union of the crowns under his descendants, James the Sixth of Scotland, and First of England.

James V., King of Scotland; born in Linlithgow, April 10, 1512; succeeded in 1513, at the death of his father, James IV., though only 18 months old. His mother, Margaret of England, was named regent during his childhood, but the period of his long minority was one of lawlessness and gross misgovernment. In 1536 he visited the court of France and on Jan. 1, 1537, he married Madeleine, daughter of Francis I., but the queen died shortly after. He afterward married Mary of Lorraine, daughter of the Duke of Guise and widow of Louis of Orleans. He died on Dec. 16, 1542, seven days after the birth of his unfortunate daughter, Mary, Queen of Scots. To him Scotland owes the foundation of the College of Justice, which developed into the Court of Sessions.

James I. of England and VI. of Scotland; born in Edinburgh Castle, June 19, 1566; was the only child of Mary Queen of Scots, by her cousin Henry Stuart, Lord Darnley. In the following year, Mary being forced to resign the crown, he was solemnly crowned at Stirling and from that time all public acts ran in his name. In the stormy times which followed the infant prince was committed to the charge of the Earl and Countess of Mar.

When it became apparent that the life of his mother was in danger from the sentence of an English judicature James sent representatives to England to intercede with Elizabeth, but his whole procedure in the matter shows a singular callousness. When the news of Mary's execution arrived James was not much moved, but he attempted to make a show of indignation by condemning one of the commissioners to death, a sentence which, however, he commuted to banishment. On Nov. 23, 1589, James married Anne, daughter of Frederick II., King of Denmark.

In 1603 James having succeeded to the crown of England on the death of Queen Elizabeth proceeded amid the acclamations of his new subjects to London. In 1612 he lost his eldest son Henry, a prince of great promise, then of the age of 19, and in the following year the eventful marriage of his daughter Elizabeth with the elector palatine took place. From this marriage sprang the present royal family of England. Urged by national feelings for the Protestant cause he was at length, March 10, 1624, induced to declare war against Spain and the emperor and troops were sent over to Holland to act in conjunction with Prince Maurice. It is thought that the defeat of this enterprise produced in the king so much uneasiness as to cause the intermittent fever by which he was soon after attacked and of which he died March 27, 1625.

James II. of England, second son of Charles I. and of Henrietta of France; born Oct. 15, 1633, and immediately declared Duke of York, though only formally raised to that dignity in 1643. He first married Anne, daughter of Chancellor Hyde, afterward Lord Clarendon. In 1671

the Duchess of York died leaving her husband two daughters who became successively queens of England.

On Nov. 21, 1671, James married Mary Beatrice of Este, daughter of the Duke of Modena, and in 1677 his eldest daughter Mary was united to William, Prince of Orange.

On the death of Charles II., Feb. 6, 1685, the duke succeeded, under the title of James II., and from the time of his ascending the throne seems to have acted with a steady determination to render himself absolute and to restore the Roman Catholic religion. At variance with his Parliament he was under the necessity of accepting a pension from Louis XIV. He sent an agent to Rome to pave the way for a solemn readmission of England into the bosom of that Church, and received advice on the score of moderation from the Pope himself. This conduct encouraged the rebellion of the Duke of Monmouth. The rebellion was suppressed, but the brutality of James is shown by the execution of no fewer than 320 persons.

The innovations in regard both to the religion and government gradually united opposing interests and a large body of nobility and gentry concurred in an application to the Prince of Orange, signed by seven of the most prominent and influential political leaders, to come over and occupy the throne. James, who was long kept in ignorance of these transactions, when informed of them by his minister at The Hague, was struck with terror equal to his former infatuation, and immediately repealing all his obnoxious acts he practised every method to gain popularity. All confidence was, however, destroyed between the king and the people. William arrived with his fleet in Torbay Nov. 5, 1688, and landed his forces, amounting to 14,000 men. The royal army deserted by entire regiments. Incapable of any vigorous resolution and finding his overtures of accommodation disregarded, James resolved to quit the country. He repaired to St. Germain, where he was received with great kindness and hospitality by Louis XIV. In the meantime the throne of Great Britain was declared vacant and was occupied, with the national and parliamentary consent, by his eldest daughter, Mary, and her husband, William, conjointly. All succeeding projects for his restoration proved abortive and he spent the last years of his life in acts of ascetic devotion. He is even said to have entered into the Society of Jesus. He died in St. Germain Sept. 16, 1701.

James, Francis Edward Stuart, born in 1688, known as Chevalier de St. George, or the Old Pretender, was the son of James II., by his second wife, Mary d'Este. Aided by the Jacobites, James made several unsuccessful efforts to gain the English throne. The Pretender died in Rome, where he had lived for many years, in 1765.

James, George Payne Rainsford, an English novelist; born in London, England, in 1801. While still very young he manifested a considerable turn for literary composition, and produced, in 1822, a "Life of Edward the Black Prince." Some years afterward he composed his first novel. Its success determined him toward fiction, and a series of novels, above 60 in number, followed from his pen in rapid succession, besides several historical and other works. Latterly he accepted the office of British consul, first at Richmond, Va., and afterward at Venice, where he died in 1860.

James, George Wharton, an American ethnologist; born in Gainsborough, England, Sept. 27, 1858; devoted himself to researches in geology, archæology, and ethnology in California, Nevada, and other Western States.

James, Henry, an American scholar and author; born in Albany, N. Y., June 3, 1811. He died in Cambridge, Mass., Dec. 18, 1882.

James, Henry, an American writer; son of Henry; born in New York, April 15, 1843. He was educated in France and Switzerland and at Harvard Law School. After 1869 he made his home in England. He is a popular and prolific writer on various subjects.

James, Thomas Lemuel, an American banker; born in Utica, N. Y., March 29, 1831. He was postmaster-general of the United States in 1881–1882; then became president of

the Lincoln National bank in New York city.

James, William, an American educator; born in New York city, Jan. 11, 1842; received a private education; accepted the chair of philosophy at Harvard College in 1872; was Gifford lecturer on Natural Religion at the University of Edinburgh in 1899–1901.

James Island, one of the islands in the harbor of Charleston, S. C., at the mouth of the Ashley river. The battle of Secessionville (June 16, 1862) and several other engagements of the Civil War were fought here.

Jameson, John Franklin, an American educator; born in Boston, Mass., Sept. 19, 1859; was graduated at Amherst College in 1879; Professor of History at Brown University in 1888–1901; became head professor of the same at the University of Chicago in the latter year.

Jameson, Leander Starr, a British administrator; born in Edinburgh in 1853. He was educated at London University. Having become associated with Rhodes in the development of South Africa, he was appointed Administrator of Rhodesia in 1891, and held the position with distinction till the raid on the Transvaal in 1895, when he was defeated at Krugersdorp. He was afterward given up to the imperial authorities, tried and sentenced to 10 months' imprisonment. After seven months, however, he was released, owing to ill health. In 1897 he returned to Rhodesia and assisted in the development of the country, though not in an official capacity.

Jamestown, a district of James City co., Va., the first permanent English settlement within the limits of the United States; founded in 1607 on a peninsula 32 miles from the mouth of James river. It has now become an island by the action of the current, which has carried away a portion of the site of the ancient town. Only the ruins of the church, the fort, and of two or three houses mark the spot. Jamestown became the capital of an extensive colony, and in 1619 a house of burgesses, the first legislative assembly ever convened in British America, met here. After the seat of government was removed to Williamsburg, Jamestown began to decline; it was burned by Nathaniel Bacon during the rebellion of 1676, and never rebuilt. It was the scene of an engagement between the forces of Wayne and those of Lord Cornwallis in 1781. Pop. (1890) 1,253; (1900) 1,172.

Janaushek, Francesca Romana Magdalena, a Polish actress; born in Prague, Bohemia, July 20, 1830. In 1852 she was married to Capt. Frederick Pillot, of the German navy. She made her first tour in America in 1867–1869, and at once secured favorable notice. Returning to Germany she studied English, and in 1873 made her second vist to the United States, when she played in English the most exacting Shakespearean roles. She retired from the stage in 1898, settling in Brooklyn, N. Y.

Janeway, Edward Gamaliel, an American physician; born in New York, Aug. 31, 1841. He was graduated at Rutgers in 1860 and at the New York College of Physicians and Surgeons in 1864. He practised in New York, and after 1873 was Professor of Pathological Anatomy at Bellevue Hospital Medical College, being an authority on the heart. In September, 1901, he was summoned to the bedside of President McKinley, as a consulting specialist.

Janeway, Jacob Jones, an American clergyman; born in New York city, Nov. 20, 1774; was graduated at Columbia College in 1794; was pastor of the Second Presbyterian Church in Philadelphia in 1799–1828; Professor of Belles-lettres, Evidences of Christianity, and Political Economy at Rutgers College in 1833–1839. He died in New Brunswick, N. J., June 27, 1858.

Janin, Jules, a French critic, journalist, and novelist; born in St. Etienne, Feb. 16, 1804. In 1870 he was elected to the French Academy. His permanent work is probably the collection of papers called "History of Dramatic Literature." He died in Paris, June 19, 1874.

Janizary, a soldier of the Turkish footguard. They acted as the imperial bodyguard of the Sultan at Constantinople, but on the ground of being turbulent and dangerous to the

State, in consequence of their rising against the Sultan, the force was dissolved June 17, 1826, when 15,000 were executed, and more than 20,000 banished.

Jan Mayen Land, a volcanic island in the Arctic Ocean, named after the Dutch navigator by whom it was discovered in 1611. It lies between Iceland and Spitzbergen, and is 35 miles long. In 1882–1883 it was made the station of the Austrian polar expedition. Important seal and whale fishings are carried on E. and N. of Jan Mayen every summer.

Jansenists, a party which arose about the middle of the 17th century, under the leadership of Cornelius Jansenius, and which for years occasioned a serious controversy in the Roman Catholic Church. A number of the French clergy still hold the principles of Jansenius. While Jansenism remained in France a theological school, it became in the Netherlands an independent Church. In 1704, Codde, the vicar-apostolic of the archbishopric of Utrecht, was deposed by the Pope for holding Jansenistic views; but the chapter refused to acknowledge the validity of this deposition, and in 1723 they chose an archbishop of their own. Since that time they have had an archbishop at Utrecht, and bishops at Haarlem and Deventer. These Jansenists call themselves by preference the disciples of St. Augustine, whose doctrines they maintain, upholding moral strictness, and regarding the inward service of God as the greatest proof of piety.

Jansenius, Cornelius, a Flemish theologian; born in 1585. He founded the body of sectaries in the Roman Catholic Church known as Jansenists. He was made Bishop of Ypres, and died in 1638.

Janson, Kristofer Nagel, a Norwegian poet; born in Bergen, May 5, 1841. He was a clergyman and educator, and settled in the United States in 1881. "Norse Poems," a collection of lyrics, and "Praerien's Saga," are his most popular works, but he produced many stories of merit. He wrote in both Norse and English.

Januarius, St., or **San Gennaro,** a martyr of the Christian faith under Diocletian. He was a native of Benevento, or at least became bishop of that see in the latter part of the 3d century. According to the Neapolitan tradition the place of his martyrdom, in 305, was Pozzuoli, where many Christians suffered the same fate. His body is preserved at Naples, in the crypt of the cathedral, and in a chapel of the same church are also preserved the head of the martyr, and two phials supposed to contain his blood. On three festivals of each year the head and the phials of the blood are carried in solemn procession to the high altar of the cathedral, where the blood, on the phials being brought into contact with the head, is believed to liquefy, and in this condition is presented for the veneration of the people or for the conviction of the doubter. It occasionally happens that the liquefaction fails, and this is regarded as an omen of the worst import.

January, the first month of the year. It was among the Romans held sacred to Janus, from whom it derived its name.

Janus, one of the divinities of ancient Rome, and the only one having no equivalent in the Grecian mythology. He was represented as a son of Apollo. Janus was the god of doors and gates, and in token of his office carried a key in his hand. The first month of the English year receives its name from him, and he presided over the dawn of every day and the commencement of every undertaking. Janus was usually represented with two heads, looking in opposite directions. His temple at Rome was kept open in the time of war, and shut in time of peace.

Janvier, Margaret Thomas, an American author; born in New Orleans, La., in 1844, sister of Thomas Allibone Janvier; wrote juvenile stories and verses.

Janvier, Thomas Allibone, an American author; born in Philadelphia, Pa., July 16, 1849; received a common school education; engaged in newspaper work in his native city in 1870–1881; lived in New York during most of the period 1884–1894, and then went abroad.

Japan (native name Dai Nipon, or Niphon, that is, "Great Nipon," the latter word meaning Sunrise or East),

an island empire in the North Pacific Ocean, off the N. E. coast of Asia. The total area of the empire is about 147,655 square miles. The term Niphon, often used for the largest island of the group, is really the name of the empire. The capital of the empire is Tokyo. The pop. in 1900 was 46,541,976.

The largest island, Niphon or Hondo, is upward of 700 miles long N. E. and S. W., breadth varying from 50 to 100 miles. The coasts of the larger islands are extremely irregular, being deeply indented with gulfs, bays, and inlets, which form magnificent harbors. The surface also is generally uneven, and in many instances rises into mountains of great elevation. Volcanic vents are numerous, and earthquakes, often causing great devastation, are of frequent occurrence, and it is calculated that every seven years a Japanese city is destroyed by their agency. In Yezo some dreadful eruptions have occurred. The metallic wealth of the empire is known to be very great, comprising gold, silver, copper, tin, lead, and iron. The island of Sado is particularly mentioned as rich in gold. Both the tin and copper of Japan are considered to be of very superior quality. Coal is found in various parts, and the output is rapidly increasing, though it does not as yet much exceed 5,000,000 tons annually. Petroleum is becoming a product of some consequence. Sulphur abounds; thermal and mineral springs are of frequent occurrence; and ambergris is met with on some of the shores. Streams are numerous in Japan, but have very short courses and are for the most part rather torrents than rivers.

The climate of Japan, though extremely varied — being intensely cold in the N., and about as warm as the South of France in the S. — is on the whole much milder than its latitude would indicate; owing chiefly to the influence of the surrounding ocean.

Vegetation of the Japanese islands is exceeding varied, the products of the tropics being intermingled with those of the temperate and frigid zones. The palm, banana, bamboo, bignonia, and myrtle flourish in the S., while in the N., more especially in the island of Yezo, oaks and pines abound. Sweet oranges, pomegranates, pears, apricots, peaches, and over 500 of the principal ornamental and useful plants are of foreign origin, having probably been introduced from Korea and China. The camphor and varnish trees are indigenous. The kadsi, or paper tree, a species of mulberry, grows naturally in the fields, and furnishes textile fibers from which paper is produced; paper is also made from various other plants. The chrysanthemum is a common and favorite plant and has become an emblem of Japan. The flora as a whole resembles that of a great part of North America.

The soil of Japan is naturally indifferent; but the patient industry of the agriculturists favored by the genial climate has covered with vegetation every spot capable of bearing anything. In the S. the sugar cane is cultivated with success; and rice yields two harvests and constitutes the chief article of food. Wheat and barley, maize and millet are grown to an important extent, and buckwheat, potatoes, melons, pumpkins, and cucumbers in great abundance. Ginger, pepper, cotton, hemp, and tobacco are cultivated in considerable quantities; and there are extensive plantations of the tea plant — yielding, however, a produce inferior to that of China. Silk is also a Japanese product.

The Japanese may be regarded as belonging to the great Mongolian family of peoples (apart from the Ainos of Yezo, who are of different race). They are distinguished by broad skulls and high cheek bones; small black eyes, obliquely set; long black hair; and a yellow or light olive complexion; some are good looking and many are well made, active, and nimble. Apart from members of the imperial family, they are now divided socially into three classes; kwazoku or nobles, shizoku or knights, and heimin or common people; and the classes are kept distinct with all the strictness of caste. Among the chief moral characteristics of the Japanese are perseverance, courage, and frankness, with good humor, natural politeness and a large measure of self-confidence. The agricultural population in particular are distinguished for their industry, temperance, and courteous hospitality. The Japanese dress consists of loose garments of silk

or cotton gathered in at the waist and fastened by a girdle, the men of the higher orders wearing a kind of petticoat trousers. At the present day, though the national costume has by no means been discarded, European dress is commonly worn by the upper classes on formal occasions and during the discharge of official duties. The established or State religion is that of Buddha, which is, however, exotic and comparatively modern, although another and older faith also exists, called Shinto or Shin-Syu (faith in gods, or ways to gods). There are a large number of Christians in Japan, the Protestant missions reporting 30,000 members. The literature of Japan is copious and includes works in all departments, historical, scientific, and imaginative, generally based on Chinese classics.

The government of Japan was, till lately, a hereditary absolute monarchy, vested in the mikado, or emperor. This was the ancient form, but in 1585 the emperor's commander-in-chief, the shogun, usurped the governing power. In 1868, however, a revolution overthrew the power and office of the shogun and the mikado was restored to his ancient supremacy. In 1889 Japan received a constitution, becoming a constitutional monarchy. The mikado is sovereign of the empire, can declare war, make peace, and conclude treaties; and exercise executive powers with the advice and assistance of his cabinet who are appointed by himself. He is also assisted by a privy council, who give their advice in important matters when consulted. The cabinet includes the prime minister and the statesmen at the head of the foreign office, treasury, war, navy, education, public works, etc. The legislative power is vested in the mikado and the Diet or Parliament, which consists of two houses, a house of peers and a house of representatives. The former consists of members of the imperial family, princes, and marquises; counts, viscounts, and barons elected by their respective orders; and a certain number of persons nominated by the emperor and by a few wealthy taxpayers, the total number being about 300. The house of representatives numbers 300; the members being elected for a period of four years, so many from each electoral district. Every Japanese, after reaching the age of 20, has to serve three years in the army. The army on a peace footing in 1900 numbered 603,-116 of all ranks.

On the abolition of the shogunate in 1868 Japan entered on a program of reform on Western lines. This progressive movement was chiefly, if not solely, the result of political foresight. The Japanese at heart are as anti-foreign as their Chinese neighbors; but, unlike the latter, they have grasped the fact that Western encroachment can only be checked by Western methods. Not only were the youth of Japan sent to Europe for the purpose of acquiring Western sciences, but foreign advisers were called in wholesale to reorganize the army and to instruct the nation in the ways of the West. As a result Japan has, during recent years, thoroughly reorganized and modernized her military, educational, legal and industrial system until it is today recognized as a nation of the greatest importance, if not of the first rank. In 1897 Japan adopted a gold currency and placed herself thereby on a financial level with the civilized powers of the West. Silk and silk goods form the chief export, others of importance being coal, copper, tea, cottons, rice, matches, porcelain, mats. The imports in 1900 had the value of about $150,000,000, the chief items being cotton, raw and manufactured, metals, sugar, woolens, machinery.

Marco Polo is the first European traveler who speaks of Japan, called by him Cipango, or Zipangou. In 1542 it was reached by Mendez Pinto, and shortly afterward the Portuguese obtained permission to settle at Nagasaki and established a highly lucrative trade.

The first attempt in modern times to reopen a commercial intercourse was made by the United States which, March 31, 1854, succeeded, through the agency of Commodore Perry, in concluding a treaty by which the ports of Shimoda, in the island of Niphon, and Hakodate, in Yezo, were to be opened to American ships, but only for effecting repairs and obtaining supplies of provisions and fresh water. In October of the same year Admiral Sir James Stirling concluded on behalf of Great Britain a similar treaty by

which the harbors of Nagasaki and Hakodate were to be opened to British ships for the same purpose. A much more important treaty, however, was effected by Lord Elgin with the Japanese government on Aug. 26, 1858, by which five ports were opened to free commerce with Great Britain, under payment of certain fixed duties. The American government had a short time previous concluded a similar treaty with Japan, and other treaties of a like nature were soon concluded by various European countries. In 1869 Europeans were also allowed to establish trading houses at Tokyo (the port of which is Yokohama), and since then a number of other ports have been opened to foreign trade. The mission of Commodore Perry to Japan contributed much to inform us as to the condition of the Japanese, and since that time there has been a continual increase in our knowledge both of the country and people.

In 1894 war with China broke out, ostensibly owing to disturbances in Korea, over which both China and Japan had long claimed a suzerainty, and which had been a frequent source of friction between the two countries on former occasions. Active hostilities began in Korea, from which the Japanese gradually drove out the Chinese troops. A great naval engagement took place off the mouth of the Yalu river, which separates Korea from China, and the result was entirely in favor of the Japanese, who then pushed their way into Manchuria, driving the Chinese before them. China saw that it was hopeless to continue the struggle, and in March, 1895, Li Hung Chang was sent to Shimonoseki to sue for peace. Japan demanded, in addition to a heavy war indemnity, the cession of the Liao-tung peninsula. To these terms China's plenipotentiary ostensibly agreed, but it had been secretly arranged that Russia should step in and forbid the alienation of territory on the mainland. Accordingly Japan found her demands opposed by Russia, France, and Germany, and was compelled to forego the legitimate fruits of her victory. There is no doubt that Japan's primary object in making war was to check the advance of Russia on Korea. Her statesmen hoped, by the insistence on Western reform, to make Korea a powerful buffer State between their own country and Muscovite aggression; and since the conclusion of the war there has been a constant — and singularly even — struggle of diplomacy between Japan and Russia for paramount influence in Korea. Instead of the Liao-tung peninsula, the island of Formosa and the Pescadores Islands were ceded to Japan, who was thus obliged to relinquish her design of thwarting Russia's objects in Northern China. A subject which constantly occupied the attention of Japanese statesmen during the 12 years that preceded the war with China was treaty revision. This was finally accomplished and treaties have been made with the United States and other powers which gave Japan full recognition as a civilized empire. The principal effect has been to abolish extra territoriality and to throw open the whole of Japan to the foreigners for purposes of travel, trade or residence. The trouble with Russia on account of Russia's virtual monopoly of Manchuria and encroachments on Korea have lately made war imminent. Great Britain being an ally of Japan, would probably take part in the struggle should war break out.

Japanning, coating wood or metal articles with varnish. The art first originated in Japan, whence the name.

Japhet, according to the Hebrew record, the second son of Noah, whose descendants peopled first the N. and W. of Asia, after which they proceeded to occupy the "isles of the Gentiles." The term Japhetic or Japetic was at one time used loosely for peoples of the European stock (nearly as Aryan and Indo-Europeans now) as opposed to Semitic and Hamitic (Asiatic and African).

Jarves, James Jackson, an American writer; born in Boston, Mass., Aug. 20, 1820; received a fair education; settled in the Hawaiian Islands; established "The Polynesian," the first newspaper published in Honolulu; returned to the United States in 1849 and soon after was appointed a special agent for Hawaii to arrange treaties with the United States, Great Britain and France. He died in Terasp, Switzerland, June 28, 1888.

Jasher, Book of, one of the lost books of the ancient Hebrews, which is

quoted twice (Josh. x: 13; II Sam. i: 18).

Jasmine, or **Jasmin,** the English name of the genus Jasminum. It has opposite pinnate leaves, a four or five cleft white, sweet-scented corolla. Of about 40 species of jasmine in India, nearly all may be used in manufacturing oil and otto of jasmine.

Otto of jasmine, a pomade made by impregnating suet with the scent of jasmine, and leaving it for a fortnight in pure rectified spirit.

Jason, in classic fable, a Greek hero; son of Æson, King of Iolchos, a city of Thessaly. His journey to recover the Golden Fleece is one of the famous stories of mythology.

Jasper, a mineral of the quartz family, which occurs in the form of rocky masses, often making up large portions of hills of considerable size. In hue it is of various shades of red, yellow, brown, and green, and sometimes arranged in stripes, when it is called ribbon jasper. Its varied colors are generally derived from iron in different degrees of oxidation. Jasper is much used for ornamental purposes, on account of its hardness and susceptibility of taking a high polish.

Jastrow, Morris, an American educator; born in Europe, Aug. 13, 1861; was graduated at the University of Pennsylvania in 1881 and studied in Europe; accepted chair of Semitic Languages in the University of Pennsylvania; became a high authority on Semitic Languages, religion and literature.

Jaundice, an affection in which many tissues of the body are stained yellow, particularly the conjunctiva, skin, underneath the finger-nails, the urine, etc. It is caused by the coloring matter of the bile becoming absorbed into the blood from various morbid conditions of the liver, or the duodenal portion of the intestine, either from mechanical obstruction of the bile, or from suppression.

Java, an island of the Dutch East Indies; is washed on the N. by the Sea of Java, on the E. by the Strait of Bali, on the S. by the Indian Ocean, and on the W. by Sunda Strait; extends almost due W. and E., declining about 15° to the S. The extreme length is about 600 miles, the breadth 40 to 125 miles, the superficial area about 49,000 square miles, the pop. (1900) 26,125,053. Batavia, the capital, has a population of 115,567. The coast line is not much developed; a few large bays, protected by islands, furnish safe anchorage for vessels. There are 43 volcanoes, several of which are still active. The climate depends on the altitude; it is rather hot and unhealthy on the coast, but pleasant in the hills.

The natives belong to the Malay race. The Madurese, in the E. part of the island, the Sundanese, living in the W. part, and the Javanese proper differ in physique and in language. Most of them are Mohammedans. The native Christians number about 12,000, and the Chinese Christians a few hundreds. The inhabitants are more civilized than those of the other islands of the archipelago. One of the chief vices is opium smoking, which is a source of income to government, and yields for Java alone about $5,000,000 a year for licenses and profits on the import.

The chief wealth of Java consists in its luxuriant vegetation, though the producing power seems to be now a little exhausted, at least to judge from the many diseases by which the plantations have been visited of late. The character of the vegetation varies with the soil and the elevation.

Javelin, a light spear thrown by the hand, formerly used by horse and foot in ancient warfare. Also a hunting spear, about 5½ feet long, having a wooden shaft and an iron head. It is yet used in Europe in hunting the boar, and by many savage nations in ordinary hunting.

Jay, the popular name of a species of birds belonging to the crow family, of a vinous red color; the back pale gray; the rump and upper tail coverts white; the tail black or gray, with bluish-gray bars; the wing coverts light gray, in the median series light gray inclining to chestnut; the bastard wing or primary coverts barred with black or bright cobalt blue; head with an erectile crest; forehead white, streaked with black. Length about 13 inches. It is a beautiful bird, but attacks peas and other garden crops, to which it is very destructive, especially in the vicinity of woods and forests,

and also eats worms, larvæ, and snails. It is often kept as a cage bird. The common blue jay is found over a large portion of North and South America. The green jay of the United States is well known.

JAY.

Jay, John, an American statesman; born in New York city, Dec. 12, 1745; was graduated at King's College (now Columbia University) in 1764, and was admitted to the bar in 1768. Elected to the 1st Continental Congress in 1774, and reëlected in 1775, he prepared addresses to the people of Great Britain and Canada and to his own countrymen; drafted the constitution of New York State in 1777, and was appointed chief-justice of the State; was returned to Congress in 1778 and elected its president, and in the following year was sent as minister to Spain. In 1782 he was added by Congress to the peace commissioners, and it was mainly by his efforts that the treaty was brought to a conclusion on terms so satisfactory to the United States. In 1784–1789 he was secretary for foreign affairs. On the adoption of the National Constitution in 1789 he wrote in its favor in the "Federalist"; and after the organization of the Federal government, Washington having offered him his choice of the offices in his gift, he selected that of chief-justice of the Supreme Court. In 1794 he concluded with Lord Grenville the convention familiarly known as "Jay's treaty," which provided for the recovery by British subjects of pre-revolutionary debts and by Americans of losses incurred by illegal capture by British cruisers, and the determination of the E. frontier of what is now the State of Maine; the British were to surrender the W. posts held by them in 1786, and there was to be reciprocity of inland trade between the United States and British North America. The treaty, though favorable to the United States, was passionately denounced by the Democrats as a surrender of American rights and a betrayal of France; but it was ratified by Washington in August, 1795. Jay was governor of New York from 1795 to 1801. Then, though offered his former post of chief-justice, he retired from public life, and passed the remainder of his days at his estate of Bedford, Westchester co., N. Y., where he died, May 17, 1829.

Jeannette Expedition, an enterprise to seek the North Pole, projected in 1879 by James Gordon Bennett, proprietor of the New York "Herald," who sent out an Arctic expedition from San Francisco in the steamer "Jeannette," under the command of Lieutenant De Long, U. S. N. The "Jeannette" was early caught in the ice-pack, drifted for nearly two years, and never escaped from its grip. Subsequently dispatches from Engineer Melville showed that after the wreck of the "Jeannette" the crew embarked in two cutters and a whaleboat. Lieutenant Danenhower and a portion of the "Jeannette's" crew reached New York at the end of May, 1882, Engineer Melville remaining in Siberia to prosecute the search for the bodies of De Long and his men. They were finally discovered in the snow, with evidences that all had perished from cold and hunger.

Jebusites, one of the chief tribes of the land of Canaan; they dwelt in the mountains to the W. of the Dead Sea, and to the N. of the Hittites. Their capital was Jebus, afterward called Salem; and, according to some, was the site, at a later period, of the city of Jerusalem.

Jedda, the port of Mecca, Arabia. On June 15, 1858, the fanatic Mo-

hometans massacred 26 of the Christian inhabitants, among them the English and French consuls and part of their families; but many fled to the shipping. On the delay of justice, Commodore Pullen, with the "Cyclops," bombarded the town. On Aug. 6, 11 of the assassins were executed; the ringleaders afterward.

Jefferson, Charles Edward, an American clergyman; born in Cambridge, O., Aug. 29, 1860; was graduated at Ohio Wesleyan University in 1882, and at the School of Theology, Boston University, in 1887. In 1898 he became pastor of the Broadway Tabernacle, New York.

Jefferson, Joseph, an American comedian; born in Philadelphia, Pa., Feb. 20, 1829. He came of a theatrical stock, his great-grandfather having been a member of Garrick's company at Drury Lane, while his father and grandfather were well-known American actors. Jefferson was on the stage from his very infancy, appearing as Cora's child in "Pizarro" when only three years of age. In 1865 he visited London, and at the Adelphi Theater played for the first time his world-famous part of Rip Van Winkle, Sept. 4, 1865. With this character his name is identified, and though he has shown himself an admirable comedian in many characters to the English-speaking world he is always Rip Van Winkle. The character is one of the most perfect works of art — beautiful in conception, subtle and delicate in execution.

Jefferson, Thomas, an American statesman, 3d President of the United States; born in Shadwell, Va., April 2, 1743. He received a liberal education for that time, graduating at William and Mary College in 1764. He was admitted to the bar in 1767. In 1769 he was sent to the Virginia House of Burgesses, where he gained local fame by a speech supporting the emancipation of slaves. In 1774 the Burgesses were dissolved by Lord Dunmore, the governor, but met on their own responsibility and sent delegates to the Colonial Congress. Jefferson being elected but unable to go, sent a "Summary View of the Rights of British North America," for which he was nearly attainted of treason in Parliament. Jefferson was a member of the 2d Congress, in 1775, and of the 3d, in 1776. He was appointed chairman of a special committee of five to prepare a declaration of independence, Jefferson wrote the draft, and it was adopted, with very few changes, to become one of the immortal documents of history. He resigned his seat in Congress to assist in framing the Virginia constitution. In 1779 he was elected governor of Virginia. In 1783 he was returned to Congress, where he secured the adoption of the decimal system of coinage and assisted in other important measures. In 1784, with Franklin and Adams, he was instrumental in making important treaties with Prussia and Morocco. In 1785 he was made minister to France, where he served during the stormiest period of the French Revolution. The liberal and destructive spirit of that revolution had great influence upon him, and his subsequent views and acts were more or less shaped by it. He floated the French tricolor at his home at Monticello, and greeted his neighbors with the title of "citizen." In 1789 he was made Secretary of State by Washington. Here he was recognized as the leader of the Republican party, the other members of the Cabinet and Washington himself being Federalists. In 1794 he retired to his estate and passed three years in study and leisure. In 1797 he was chosen Vice-President with Adams, and in 1801 was elected President by the House of Representatives. In 1805 he was reëlected. His administrations were marked by the war with Tripoli, the admission of Ohio to the Union, the purchase of the Louisiana Territory, the naval episode between the "Chesapeake" and the "Leopard," the Embargo act, the trial of Aaron Burr for treason, and the prohibition of the slave trade. His course in connection with these events was warmly approved, for the most part, by the people, but much criticised by prominent Federalists, and by enemies that he made. In 1809 he retired finally to private life, where he devoted himself to study and to philanthropic enterprises, his chief undertaking being the establishment of the University of Virginia. He was steadily Democratic in his views, and a champion of the rights of the States, as against centralization in government. He died in Monticello, Va., July

4, 1826, on the same day of John Adams's death, and the 50th anniversary of the famous Declaration that he had penned.

Jeffrey, Francis, a British critic and essayist; born in Edinburgh in 1773. After graduating at the universities of Glasgow and Oxford, Jeffrey, in 1794, was admitted to the Scottish bar. In 1813 he married a grand-niece of John Wilkes, crossing to the United States to bring her home. From 1816 till he ceased to practise Jeffrey was the acknowledged leader of the Scottish bar. He died in 1850.

Jeffreys, or **Jefferies, George, Lord,** an English jurist; born in Acton, England, about 1640. By attaching himself to the Duke of York he obtained the appointment of Welsh judge, the honor of knighthood, and the chief-justiceship of Chester. In 1683 he was appointed Chief-Justice of the King's Bench, and, in 1685, Lord Chancellor. His cruelties on the Western circuit toward the deluded followers of the Duke of Monmouth were excessive; yet they gave great satisfaction to James II., who, with a grim pleasantry, called this "Jeffreys' Campaign." He died a prisoner in the Tower of London in 1689.

Jehoshaphat, King of Judah. During the early part of his reign his people prospered, for he was a pious prince; but having entered into an alliance with Ahab he suffered many disasters, which were at length averted by prayer and fasting; and henceforth his reign was peaceful and happy. After a reign of 25 years he died, 889 B. C.

Jehovah, the most sacred of the names given in the Old Testament to the Supreme Being, regarded also as the God specially of the Jewish people. So holy was the name deemed that the Jews were afraid to allow it to escape their lips, and therefore took means intentionally to mispronounce it by altering the vowel points to those of Adonai, or, when the two occur together, of Elohim, less sacred names for God.

Jehu, the 10th King of Israel; had been commander in the army of Jehoram, his king, whom he shot with an arrow, and put to death 70 of Ahab's children, and the priests of Baal in the temple of their idol. Afterward relapsing into idolatry, he was punished by the delivery of his kingdom to Hazael, King of Syria. He died in 857 B. C.

Jejeebhoy, Sir Jamsetjee, a Parsee merchant prince and philanthropist; born of poor parents in Bombay, India, July 15, 1783. He contributed very generously to various educational and philanthropic institutions in Bombay. Altogether, between 1822 and 1858 he spent upward of $1,250,000 in undertakings of a purely benevolent character. He died April 14, 1859.

Jelalabad, or **Jalalabad,** a town of Afghanistan; 78 miles E. N. E. of Kabul, on the Peshawar route. A famous and successful resistance was made here in 1841–1842 by the British forces under Sir Robert Sale. Also the capital of Seistan, Southwest Afghanistan. Pop., est., 10,000.

Jelly Fish, a name for bell-shaped or disk-like marine Hydrozoa, for the most part active swimmers. Beset with myriads of stinging cells, these "blubbers" often make bathers more than uncomfortable. They are frequently left stranded in great numbers on the beach of the ocean by the retiring tide.

Jemez, Emmes, or **Hemes,** a division of the Sanoan linguistic stock of North American Indians, who live in the pueblo of Jemez, on the river of that name, 20 miles N. W. of Bernalillo, N. M. They number a few hundred.

Jenckes, Joseph, an American inventor; born in Colbrooke, England, in 1602; became a master mechanic; established the first iron works in the American colonies in 1642; directed the erection of the first furnaces, the manufacture of the first molds and the casting of the first tools and machinery; designed an improved waterwheel in 1646, and later a sawmill. In 1652 the first mint was founded in Boston, and Jenckes cut the first dies for its coins; made the first fire engine in America in 1654; invented also an improved grass-scythe which has been used in all countries with but few changes. He died in Lynn, Mass., March 16, 1683.

Jenner, Edward, an English physician; born in Berkeley, Gloucestershire, in 1749. After many years devoted to the consideration of, and experiments made with, vaccine lymph, as a specific for smallpox, Jenner was for the first time, in 1796, enabled to satisfy many medical men of the valid properties of this new agent, and show by a demonstration that the lymph taken from a cow, when inserted under the skin of a patient of any age, acted as a preventive of the disease known as smallpox. He died in 1823.

Jenner, Sir William, an English physician; born in Chatham, in 1815; was educated at University College, London. It was he who established the difference between typhus and typhoid fevers (1851). He died Dec. 11, 1898.

Jenolan Caves, a series of vast limestone caverns, on the W. side of the Blue Mountains, in New South Wales, Australia. They were discovered in 1841, and were set apart in 1866 as public property. In grandeur, magnitude, and rich variety they rival the Mammoth Cave of Kentucky.

Jephthah, one of the judges of Israel, who made a remarkable vow before he marched against the Ammonites, that if he proved victorious he would offer to the Lord the first living thing which should come to meet him on his return. This happened to be his only daughter, whom he is said to have sacrificed to fulfil his rash vow.

Jerboa, a rodent mammal, with a body six inches long and a tail about eight, occurring in Egypt, Nubia, Arabia, and some other parts of Western Asia. They are lively little creatures, forming societies in the desert, feeding on its scanty vegetation, and living in underground galleries.

Jeremiah, the name of eight men mentioned in the Old Testament, the only very notable one being Jeremiah the prophet. He was of priestly descent, and born or resident of Anathoth, about 3 miles from Jerusalem. His father's name was Hilkiah. When called to the prophetic office, in the 13th year of King Josiah, B. C. 629 or 625, he calls himself a child. His prophetic life spanned the 11th of King Zedekiah, about B. C. 588, a period of 37 or 41 years. He wrote two Old Testament books, the prophecies of Jeremiah and the Lamentations. Many rationalistic critics attribute to him also the book of Deuteronomy.

One of the canonical books of the Old Testament, the second of the greater prophets. The several predictions are not in chronological order. A certain plaintive air runs through the book, deepening as the trials of the seer increase. The concluding chapter, an historical one, is evidently from another hand.

Jericho, a city of the Canaanites, in a plain on the W. side of the Jordan, near its mouth. It was destroyed by Joshua, rebuilt in the time of the judges, and formed an independent frontier fortress of Judæa. It was again destroyed by Vespasian, rebuilt under Hadrian, and finally destroyed during the crusades. The site of Jericho has usually been fixed at Rihah, a mean and foul Arab hamlet of some 200 inhabitants. Recent travelers, however, show that the probable location of Jericho was 2 miles W. of Rihah, at the mouth of Wady Kelt, and where the road from Jerusalem debouches into the plain. On the W. and N. of Jericho rise high limestone hills, one of which, the dreary Quarantana, 1,200 or 1,500 feet high, derives its name from the modern tradition that it was the scene of our Lord's 40 days' fast and temptation. Jericho was anciently well watered and amazingly fruitful.

Jericho, Rose of, popular name of a genus of plants belonging to the crucifers. It is an annual, inhabiting the Egyptian desert. It is so highly hygrometric that when fully developed it contracts its rigid branches so as to constitute a ball. Exposed then to the action of the wind, it is driven hither and thither. If, however, it be brought in contact with water, the ball-form vanishes, and the branches again acquire their natural expansion.

Jeroboam, the 1st King of Israel, an officer in the service of Solomon, who had created him governor of the States of Ephraim and Manasseh. While fulfilling these offices it was predicted that he should yet rule over 10 instead of 2 of the tribes. Solomon, alarmed at the effect of such a

report, sent out his officers to secure Jeroboam; but he, receiving timely warning, left his post and fled into Egypt, where, for the rest of Solomon's reign, he remained in retirement. On the death of that monarch, 990 B. C., and the revolt of the 10 tribes from the house of Judah, Jeroboam returned to his native land; and the revolted tribes having formed themselves into a separate kingdom, under the name of Israel, elected Jeroboam as their first king, and who, after an unholy and idolatrous reign of 22 years, died 968 B. C.

Jeroboam II., King of Israel, and the son of Joash, succeeded that king in 834 B. C. After some signal victories over the Assyrians he fell into the practice of idolatry and had his kingdom overrun by the Assyrians. The prophets Hosea and Amos predicted the downfall of his house.

Jerome, or **Hieronymus,** one of the fathers of the Church; born in 331 at Stridon, on the frontiers of Dacia. He died in 420.

Jerome of Prague, a Bohemian reformer; born about 1360. He was in faith and sufferings the companion of the famous John Huss. On May 30, 1416, he was burned at the stake, and his ashes thrown into the Rhine.

Jerrold, Douglas, an English humorist and dramatist; born in 1803. After being for a short time a midshipman, he was bound as an apprentice to a printer in London. He died in 1857.

Jerrold, William Blanchard, an English journalist and topical writer, son of Douglas; born in London, Dec. 23, 1826. He died March 10, 1884.

Jersey, the largest and most important of the Channel Islands, lying in the English Channel, and belonging to Great Britain. It is about 12 miles long and 7 miles wide.

Jersey City, a city and county-seat of Hudson co., N. J., on the Hudson river, the Morris canal, and the Pennsylvania, the Erie, the Lehigh Valley, the New Jersey Central, the Baltimore and Ohio, the West Shore, the New Jersey and New York, the New York, Susquehanna and Western, and the Lackawanna railroads; opposite New York city, with which it is connected by steam ferries; area 13 square miles.

The business portion of the city lies in a level stretch along the river, about a mile in width. W. of this is an abrupt bluff on which is the residential portion of the city. Jersey City is the second largest city in the State; is lighted by electricity at a cost of $140,000 annually; owns a waterworks system with a capacity of 130,000,000 gallons; and has trolley connections with nearby cities.

The business interests of Jersey City are closely allied with those of New York city. Being the terminus of several large railroads and steamship lines, the commercial trade is very extensive. It has extensive stock yards, slaughter houses, grain elevators, and meat packing establishments. Its manufactures are varied and extensive.

Jersey City was formerly known as Paulus Hook; was laid out in 1804; chartered as the city of Jersey in 1820; incorporated as Jersey City in 1838; was rechartered in 1889. Pop. (1900) 206,433.

Jerusalem, a city of Palestine, of little account and wretched appearance at the present time, but of historical importance, especially in connection with the religious evolution of mankind; situated on the S. end of a plateau betweeen the Judæan watershed ridge and the ridge of Olivet; 32 miles from the coast of the Mediterranean, 14 miles W. of the N. end of the Dead Sea. The plateau is penetrated by two deep waterless valleys running roughly N. and S. The E. one, called the Valley of Kidron, extends along the W. base of Olivet for about a mile and a half, terminating S. at a well, known as Bir Eyyub; and the W. or Wadi er-Rababi, runs S. for about half a mile from near the main watershed, and then turns E. to join the Kidron valley. A sort of branch near the head of the Tyropœon divides the W. ridge into two summits, a N. and a S., connected by a narrow saddle; but the E. ridge is undivided, except by a trench cut in the rock at its narrower central part. The N. part of the plateau was known as Bezetha, or "place of olives." The heights above sea-level of the chief summits of the site are: N. summit

of E. ridge, 2,440 feet descending S.; N. summit of W. ridge, 2,490 feet; S. summit of W. ridge, 2,520 feet. There is no doubt that the temple stood on the N. E. hill, in the enclosure known as Haram-esh-Sherif, but a difference of opinion still prevails regarding the site of Zion or the City of David. Tradition following Josephus places it on the S. W. summit, but most recent authorities support the view that the City of David was built on the E. ridge to the S. of the Temple hill. The rectangular S. W. summit was the site of what Josephus calls the Upper City.

The present city wall, with 34 towers, incloses the Temple hill, Bezetha, the N. W. summit and the N. part of the S. W. hill, but excludes the true Zion hill, or that on which the City of David stood. The water supply of Jerusalem is obtained mainly from rain tanks, but the town was once partially supplied from the Virgin's Spring, on the E. side of the S. E. hill. An ancient aqueduct connects this spring with the Pool of Siloam, at the S. end of the ancient Zion. The Hammam esh-Shefa is an underground cave well W. of the Temple hill.

Modern Jerusalem is a rather dirty town, with crooked and badly paved streets, most of them very narrow. The city is divided by the main street running from the Damascus gate S. to near the Zion gate, and that running E. from the Jaffa gate to the Haram into four quarters. The N. E. quarter is inhabited by Mohammedans, and the S. E. by Jews, while the two W. quarters are occupied by Armenians (S.) and other Christians (N.) respectively. The city is now governed as an independent sanjak by a mutessarif of the first class, immediately subject to the Turkish government at Constantinople. There is an executive council and a town council, on both of which the chief religious groups are represented.

By far the most interesting part of Jerusalem proper is the Haram esh-Sherif, the site of the celebrated temple and palace of Solomon and of the later temples. Some remains of Herod's temple are still to be seen. The Haram is roughly rectangular, about 527 yards by 330, and on the W. and N. sides, where there are some houses, several gates communicate with the rest of the city. Near the center of this area is an elevated platform approached by flights of steps on all sides, and on it stands the beautiful octagonal Kubbet es-Sakhra, or Dome of the Rock. Each side of the octagon is 66 feet 7 inches long, and is adorned on the outside with marble and porcelain tiles, and in each of the four sides which face the cardinal points is a square gate surmounted by a vaulted arch. The dome is supported on a circle of supports in the interior, consisting of four massive piers facing the middle points of the N. E., N. W., S. E., and S. W. faces of the octagon and of 12 columns; and between this circle and the outer walls there is an octagonal series of supports, comprising 8 corner piers and 16 columns. The dome itself is of wood, and beneath it is the Sacred Rock.

Outside the limits of the Haram the most noteworthy building is the Church of the Holy Sepulcher in the Christian quarter which was erected in its original form as early as the 4th century, but the greater part of the present structure dates only from the beginning of the 19th century. The main part of the church is the rotunda, with a dome 65 feet in diameter (restored 1868), resting on 18 piers, and beneath the latter is the small Chapel of the Sepulcher. Immediately E. of the Rotunda is the Catholicon, or Church of the Crusaders, erected in 1140–1149, and originally a separate building. The church buildings are said to include, to the S. E. of the Rotunda, the hill of Golgotha or Calvary, and at every step we are met with more or less doubtful identifications of spots associated with the life of Jesus. The 22 chapels associated with the central parts of the church are all more or less interesting. The Via Dolorosa, along which Jesus is said to have carried the cross to Calvary, follows the present street, Tarik Bab Sitti Maryam, from St. Stephen's gate.

The earliest historical mention of Jerusalem is in the Tell el-Amarna tablets (about 1400 B. C.). It was then subject to Egypt. Later we find it in the hands of a people called Jebusites, from whom it was captured by David. Under him it rose rapidly in importance and received numerous

embellishments; but these were all eclipsed by the more magnificent structures of Solomon, whose crowning work was the erection of the great temple. The rash proceedings of his successor, Rehoboam, and the consequent revolt of 10 tribes must have shorn Jerusalem of much of its glory; but it still continued for several centuries to take precedence as one of the most distinguished cities of the East. At length, having awakened the jealousy or excited the avarice of neighboring potentates, it was attacked in succession of the Egyptians, Assyrians, and Babylonians. The last were headed by Nebuchadnezzar, who, 588 B. C., having made himself master of the city, destroyed it, burned down the temple after rifling it of its treasures and carried off those of the inhabitants whom the sword had spared as captives to Babylon. After 70 years of captivity, Cyrus permitted the Jews to return; and the temple, though on a scale of much less magnificence than before, was rebuilt 515 B. C. Jerusalem now enjoyed a period of repose and had regained a considerable degree of prosperity, when, on the dissolution of the Macedonian empire which Alexander had established, it was seized and sacked by Ptolemy Soter, who carried off a great number of the inhabitants to Alexandria. By the victorious achievements of the Maccabees, the Macedonian yoke was thrown off, and Jerusalem in common with Judea, became once more independent, 165 B. C. It next became tributary to Rome; but continuing to be governed by its own sovereigns had not ceased to exist as the capital of a kingdom when the Saviour appeared. About 40 years after His death the tyranny of the Romans drove a section of the Jews into revolt, and in A. D. 66 Jerusalem was taken by the insurgents. Titus, the son of the Emperor Vespasian, regained it in the year 70, after one of the most terrible sieges recorded in history; the temple was burned and the city razed to the ground. In 131 Hadrian ordered the city to be rebuilt. The Jews, apprehending that pagan idols would be set up in the holy places, broke into rebellion and took Jerusalem, which the Romans recaptured only after a protracted and sanguinary contest. They then finished the building of the city, and, calling it Ælia Capitolina, made it a Roman colony and forbade the Jews to approach it on pain of death.

It continued thus depressed till the beginning of the 4th century, when Rome having become Christian, Jerusalem shared in the benefit and assumed the appearance of a distinguished Christian city, under the fostering care of Helena, mother of Constantine the Great. This period of prosperity, prolonged by a succession of Christian emperors, was suddenly terminated in 636 by the conquest of the Mohammedans, under the Arabian Caliph Omar, whose dynasty was afterward succeeded by that of the Turks. The indignities and cruelties heaped on the Christians and the utter desecration of their most holy places roused the indignation of Europe, and led to the Crusades. In 1099 the Crusaders took Jerusalem by storm and made it the capital of a Christian monarchy which with difficulty maintained its existence till 1187, when it was finally overthrown by the celebrated Sultan Saladin.

Jesse, in Scripture, the son of Obed and father of David. He was a grandson of Ruth, the Moabitess, and in her native land he found an asylum while David was in most danger from the jealous pursuit of Saul.

Jessup, Henry Harris, an American missionary; born in Montrose, Pa., April 19, 1832; graduated at Yale College in 1851, and at the Union Theological Seminary in 1855; ordained in the Presbyterian Church; was a missionary in Tripoli, Syria, in 1856–1860, and then in Beirut.

Jest Book, a compilation of pleasantries, or a collection of witty sayings and practical jokes which go under the names of certain men who were celebrated in their day as "merry fellows."

Jesters, persons formerly kept in the households of princes and lesser dignitaries to furnish amusement by their real or affected folly, and hence commonly called court fools.

Jesuit, a companion of the Society of Jesus, the most celebrated ecclesiastical order of modern times. It was founded by Ignatius Loyola, who was born in 1491. He became an officer of

great bravery in the army. Dreadfully wounded in 1521, and long confined in consequence to a sick bed, he saw the vanity of the world, and renouncing it, resolved in future on a religious life. When, on his recovery, at the University of Paris, he made converts of two fellow students who lodged with him, one, Francis Xavier, afterward the Apostle of the Indies. In 1534 he and they, with four others, seven in all, formed a religious society, the members of which preached through the country. On Aug. 15, of that year they took vows of chastity, absolute poverty, devotion to the care of Christians, and to the conversion of infidels. This was the germ of the Jesuit order. Loyola was devotedly attached to the old order of things, rudely shaken by the Reformation. A soldier, he bethought him of an army in which inferiors should give implicit obedience to their superiors. A general should command, and should have none above him but the Pope, to whom he should give loyal support. Paul III. issued a bull in 1540 sanctioning the establishment of the order. In 1542 Loyola was chosen general and afterward resided at Rome. His followers went everywhere. His order spread with great rapidity, and at the death of Loyola, on July 31, 1556, consisted of above 1,000 persons, with 100 houses divided into 12 provinces. The Jesuits rendered great service to the papacy. In September, 1759, an order was given for the expulsion of the Jesuits from Portugal and Brazil. In 1764 the order was suppressed in France, and its property confiscated. On March 31, 1767, similar destruction overtook it in Spain, and soon after in Spanish America, and next, after 1768, in the Two Sicilies and Parma, till at length on July 21, 1773, the Pope issued a bull suppressing the order altogether. Austria and the other Roman Catholic States obeyed the decree. In August, 1814, Pope Pius VII. reëstablished it. In June, 1817, the Jesuits were expelled from Russia, and the British Roman Catholic Emancipation Act, passed in 1829, left them under some disabilities which have since been removed. The bill regulating religious communities, which went into force in France in 1901, greatly restricted the Jesuits in their educational work. Roman Catholic higher education in the United States is largely under the control of the Jesuits.

Jesup, Morris Ketchum, an American banker; born in Westport, Conn., June 21, 1830; engaged actively in banking in 1852–1884; retiring in the latter year. In 1881 he became president of the New York City Mission and Tract Society, for which he built the DeWitt Memorial Church in Rivington street as a memorial of the Rev. Doctor DeWitt, his father-in-law. He was made president of the Five Points House of Industry in 1872; was a founder of the Young Men's Christian Association, of which he was chosen president in 1872; elected president of the Metropolitan Museum of Natural History in 1881, and of the New York Chamber of Commerce in 1899. In 1897 he agreed to provide funds, estimated at from $50,000 to $75,000, for an anthropological exploration of Northwestern North America and Eastern Asia.

Jesus Christ (Iesous, the Greek form of Joshua or Jeshua, contracted from Jehoshua, meaning, help of Jehovah, or saviour; Christos, anointed), the son of God, the Saviour of men, whose birth, life and death were predicted by prophets, and attended with miraculous manifestations of divine power; was born of the Virgin Mary, of the tribe of Judah, who was betrothed to Joseph, the descendant and heir of the house of David. Two genealogies of Joseph are given — one by Matthew, chap. i: the other by Luke, chap. iv. The former is supposed to contain the list of heirs of the house of David, whether by direct or indirect descent; the other the direct ancestors of Joseph. It was foretold that Christ should be of the seed of Abraham and the son of David. The place of His birth was Bethlehem; the time, according to the received chronology, was in the year of Rome 754. Scholars are now almost unanimously agreed that this date is too late, and it is generally placed about four years earlier.

The coming of a forerunner to the Saviour, John the Baptist, in the spirit and power of Elias, was foretold by an angel (Luke i: 17). The angel Gabriel announced to Mary that the

power of the Highest should overshadow her, and that she should bear a son who should rule over the house of Jacob forever; and on the night of His birth an angel appeared to some shepherds, and announced the coming of a Saviour. On the eighth day He was circumcised according to the law of Moses, and on the 40th was presented in the temple, where the aged Simeon pronounced Him to be the light of nations and the glory of Israel. The coming of the divine infant was also hailed by the adoration of the Magi or wise men of the East, who were miraculously directed to the house where the young child was.

Herod, alarmed by these indications, determined to destroy all the male children of Bethlehem and its vicinity of the age of less than two years, for the purpose of effecting the death of Jesus. But Joseph, being miraculously warned of the danger, fled to Egypt with the virgin and her child, and on his return, after the death of Herod, went to reside at Nazareth in Galilee, whence Jesus is called a Nazarene. We have no further accounts of the earlier years of Jesus except the remarkable scene in the temple when He was 12 years old, and the general observation of Luke, that He remained in Nazareth with His parents and served them.

At the age of about 30 (Luke iii: 23) He was baptized by John in the river Jordan, the Spirit of God descending upon Him like a dove, and a voice from heaven proclaiming, "Thou art my beloved Son; in thee I am well pleased." Previously, however, to entering on His office of divine teacher He retired to a solitary place, where He passed 40 days in fasting, meditation, and prayer, previous to the remarkable scene of the temptation described by the evangelists — Matt., chap. iv.; Mark i: 12–13; Luke, chap. iv. He was afterward transfigured in the presence of three of His disciples, when Moses and Elias appeared to Him from heaven, and His raiment became white and shining, and His face shone as the sun. On this occasion again a voice came from heaven saying "This is my beloved Son; hear ye Him" (Matt., chap. xvii.; Mark, chap. ix.; Luke, chap. ix., verses 28–36).

His mission is generally considered to have occupied three years, spent in acts of mercy (chiefly miraculous), in inculcating a purer system of morals, more exalted notions of God, and more elevating views of man and his destiny than had yet been presented to the world. His doctrine is embodied chiefly in the sermon on the mount (Matt., chap. v.–vii., and Luke, chap. vi.), containing the form of prayer He taught to His disciples, commonly called the Lord's Prayer; in His discourses to the Jews in John, chap. v.–viii. and x.; to His disciples, chap. xiv.–xvi.; and His intercessory prayer, chap. xvii.

He chose 12 apostles to be the companions of His ministry, the witnesses of His miracles, and the depositories of His doctrine; and He was betrayed into the power of His enemies by one of these with the mockery of a friendly salutation. Betrayed by one, denied by another, and abandoned by all. He was carried before the Jewish priests, found guilty, and by them delivered over to the Roman magistrates, who alone had the power of life and death.

Condemned to death as a disturber of the public peace, He was nailed to the cross on Mount Calvary, and it was in the agonies of this bitter death that He prayed for the forgiveness of His executioners, and with a touching act of filial love commended His mother to His favorite disciple. The evangelists relate that from the hour of noon the sun was darkened and three hours after, Jesus, having cried out, "It is finished!" gave up the ghost. The veil of the temple, they add, was torn asunder, the earth shook, rocks were rent, and the tombs opened. The centurion who was present directing the execution exclaimed, "Truly this was the Son of God!" The body of Jesus was taken down by Joseph of Arimathea and placed in a tomb, about which the Jewish priests, remembering His prophecy that He should rise on the third day, set a guard, sealing up the door. Notwithstanding these precautions His prophecy was fulfilled by His resurrection on the first day of the week (Sunday), and He appeared repeatedly to His disciples to encourage, console, and instruct them. On the 40th day after His resurrection, while with them on the Mount of

Olives, after He had given them instructions to teach and proselytize all nations, promising them the gift of the Holy Spirit, a cloud received Him out of their sight, and He was taken up to heaven. While the disciples stood gazing after Him two men in white apparel appeared to them, and predicted His coming again in like manner as they had seen Him go. See the closing chapters of the four evangelists and Acts i: 1–14.

Jet, a dense variety of lignite passing by degrees of quality into bituminous fossil wood, sometimes perfectly black, capable of being easily cut and carved and of receiving a very beautiful polish.

Jethro, a king and priest of the Midianites, surnamed Raguel, who received Moses into his family when he fled from Egypt, and gave him his daughter Zipporah in marriage. When Moses had delivered the Israelites from their bondage, Jethro met him and delivered him his wife and children.

Jetty, in architecture, the part of a building which jets or juts over beyond the ground plan. In hydraulic engineering, (1) a construction of wood, rubble-stone, or masonry projecting into the sea, and serving as a wharf or pier for landing and shipping, or as a mole to protect a harbor. (2) A structure round the piled foundation of a bridge pier.

Jeunesse Doree ("gilded youth"), a party name given to those young men of Paris who, during the French Revolution, struggled to bring about the reaction or counter-revolution after Robespierre's fall (July 27, 1794). The term is still in use to designate young men about town, who live a butterfly life of enjoyment and pleasure.

Jevons, William Stanley, an English logician; born in Liverpool, in 1835; was educated at University College, London; he was drowned in 1882.

Jew, The Wandering, a mythical personage who forms the subject of many popular traditions. According to one account, he was a carpenter; and as our Saviour passed his workshop on his way to execution, the soldiers begged that He might be allowed to enter for a few moments and rest; but he not only refused, but insulted Him. By another account he was a shoemaker, sitting at his bench as our Saviour passed to Calvary, and not only refused to allow Him to rest for a few moments, but drove Him away with curses. Jesus calmly replied, "Thou shalt wander on the earth till I return." Driven by fear and remorse, he has since wandered, according to the command of our Lord, from place to place, and has in vain sought death amid all the greatest dangers and calamities to which human life is subject.

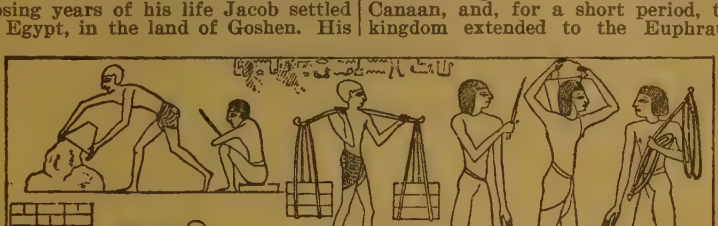
Jewett, Sarah Orne, an American writer; born in South Berwick, Me., Sept. 3, 1849. She received an academic education.

Jew Fish, the name given to two species of large fishes well known in American waters. The one known also as the guasa or black grouper sometimes reaches the weight of 700 pounds; the other inhabits particularly the Californian coast, often weighs 500 pounds, and has flesh of excellent quality.

Jewish Era, a calendar period of Hebrew origin. The Jews usually employed the era of the Seleucidæ till the 15th century, when a new mode of computing was adopted. They date from the creation, which they consider to have been 3,760 years and 3 months before the commencement of our era.

Jews, Hebrews, or **Israelites,** a people, whose ancestors appear very early in the written history of mankind on the banks of the Euphrates, Jordan, and Nile, and whose fragments are now to be seen in almost all the cities of the world; and preserving through the ages common features, habits, religion, literature, and the same language — a phenomenon unparalleled in history. Descended from Abraham, the Jews were at first called Hebrews, from the alleged ancestor of that patriarch, Heber. After the time of Jacob, their first appellation was replaced by the word Israelites, from Israel, a surname of Jacob. The term Jew, derived from Judæus, dates from the captivity of Babylon. The Jewish people assign their origin to Abraham, whom they designate the father of their race. After Abraham, Isaac, his son, became their chief; then Jacob, or Israel, the son of Isaac. Jacob had

12 sons, among them Judah, the ancestor of David and of Jesus Christ. The descendants of Jacob multiplying very rapidly, they were eventually divided into 12 tribes, each of which was regarded as having been founded by one of the children of Jacob. In the closing years of his life Jacob settled in Egypt, in the land of Goshen. His



CAPTIVITY OF THE JEWS: LABORERS.

posterity, powerful at first, were afterward enslaved and persecuted by the Pharaohs. Moses delivered them from their bondage in Egypt and put himself at their head to conduct them into the land of Canaan. Under his leadership the Jews miraculously passed the Red Sea, when Pharaoh and all his host were drowned. After wandering

CAPTIVITY OF THE JEWS: MASONS.

for 40 years in the desert, where Moses died, they reached the Land of Promise, their leader being Joshua, who had succeeded Moses. Joshua established the Jews in the Land of Promise, and dividing the country into 12 parts gave a portion to each of the 12 tribes. After Joshua, the government was con-

fided to a council of elders, then to judges; subsequently it became monarchical. Saul was the first King of the Jews; David succeeded him, and was followed by Solomon. These three kings established the dominion of the Jews throughout the ancient land of Canaan, and, for a short period, the kingdom extended to the Euphrates and the Red Sea. But on the death of the last king the 12 tribes were divided, and from that schism sprang two kingdoms. The kingdom of Judah remained faithful to the lineal descendants of David, and offered allegiance to Rehoboam, son of Solomon; the kingdom of Israel elected for its sovereign Jeroboam. These two kingdoms, weakened by perpetual warfare and discord, were in the end enslaved. The kingdom of Israel was destroyed by Shalmaneser, King of Assyria, and the kingdom of Judah by Nebuchadnezzar, who first carried captive to Babylon a great part of the inhabitants. After a captivity of 70 years

the Jews obtained from Cyrus permission to reëstablish themselves in Jerusalem. After the fall of the Persian empire the Jews passed successively under the dominion of Alexander; of Ptolemy, King of Egypt; of Seleucus Nicator, King of Syria; and after once more falling under the sway of the kings of Egypt were subsequently enslaved by the Syrians. The all-conquering Romans interfered in the internal affairs of the Jewish kingdom and placed Herod I. on the throne. It was under the reign of Herod that our Saviour was born. After the death of King Herod, Palestine was distributed among his sons, and divided into four portions, called tetrarchies; but in a few years the Romans sent into the country a pro-consul, who governed in their name, and shortly afterward Rome was sole master of the kingdom.

When Christianity became the religion of the Romans, their condition became very miserable. Islamism treated them less rigorously. Under the reign of the Caliphs, the Jews of Asia, of Africa, and of Spain, were permitted to live in peace, and to cultivate commerce, letters, and the sciences. In Christian Europe, especially during the period of the Crusades, the Jews had to undergo every form of persecution, frequently being compelled to purchase life at the price of their hoarded gold; they were made to wear distinctive marks on their clothing, and afterward to dwell in separate quarters of every city. They were driven from England in 1290, from Central France in 1395, and from Spain and Sicily in 1492. In Germany, they belonged, like serfs, to the emperors and the nobles, who bought and sold them at their pleasure. The Inquisition was a particularly bitter foe to the Jews, especially in the Spanish dominions. In the 16th century, their condition became much improved. In France they were allowed to settle at Bayonne and Bordeaux in 1550; in 1784 they were relieved from the poll tax which had hitherto been imposed on them. Shortly afterward the other European States, except Russia, following the example of France treated them in a more liberal spirit.

In our own day and in almost every country they have illustrious representatives in all departments of intellectual and business activity. Their religion is founded entirely on the Old Testament; it denies the divinity of Jesus Christ; but teaches its followers to believe in the coming of the Messiah, who will collect the scattered Jewish people and found a great empire. They observe the same ceremonies which the ancient Hebrews practised. With the ancient Jews all the priests were of the tribe of Levi. After the dispersion of the Jews, during the reign of Adrian, the principal doctors of religion assembled at Tiberias, where they formed a grand council, or Sanhedrim, and founded a school which became the nursery of their rabbis. These last composed, under the title of the Talmud, a work designed to contain the oral law and traditions of the Jews. This work, with the greatest portion of the Jews, became the basis of their faith; some, however, refused to accept it. Hence arose the division of the Jews into two rival sects — the Talmudists, or Rabbinists, who follow the Talmud; and the Caraites, who follow the strict letter of the Old Testament.

Owing to cruel persecution in Russia and Rumania multitudes of Jews have immigrated to the United States, and New York has a larger Jewish population than any other city in the world.

Jezebel, a Jewish queen, celebrated for her impious life. She was daughter of Ethbaal, King of Sidon, and wife of Ahab, King of Israel. She turned her husband from the worship of the true God, established temples to the idol Baal, and caused a large number of prophets and holy persons to be put to death. Jehu, on gaining the throne, flung her from the windows of her own palace, which killed her, the dogs devouring her. Her name is commonly applied to a rapacious, or vile woman.

Jezreel, a city of Issachar (Josh. xix: 18), lying W. of Bethshean. Jezreel was called Esdraela in the time of the Maccabees. Also the name of the great plain lying between Jezreel and Acre.

Jib, a large triangular sail set on a stay, forward of the fore stay-sail, between the fore-top mast-head and jib-boom in large vessels.

Jiddah, or **Jeddah,** a seaport of the Hedjaz, Arabia; on the Red Sea, about 65 miles W. of Mecca. It owes its importance to the fact that it is the port of Mecca, and consequently the place of disembarkation for pilgrims bound for the Holy City.

Jig, a lively dance which may be performed by one or more dancers.

Jihad, or Jehad, a holy war proclaimed by the Mussulmans against Christians.

Jimmu-tenno ("Jimmu the emperor"), the supposed founder of the present Japanese dynasty, 5th in descent from the sun, and said to have ascended the throne in 660 B. C., the year from which the national records are dated. The national holiday, Feb. 11, is devoted to his worship.

Jin, or **Jinn,** in Mohammedan mythology, one of a race of genii said to have had for their male progenitor Jan, and for their female one Marija. They differ from man in their nature, their form and their speech. They are spirits residing in the lowest firmament, and have the power of rendering themselves visible to men in any form they please.

Jingo, a word whose derivation is unknown, but supposed to be a corrupted form of Jainko, the Basque name for the Supreme Being. It was first used as a political term in the Russo-Turkish War of 1877–1878, and was applied to politicians who urged on Disraeli, then Prime Minister of England, the necessity of taking sides with the Turks as the only patriotic and proper foreign politics. Since that time, the word has been used in both the United States and Europe as meaning one who advocates a spirited and aggressive foreign policy.

Jingo-Kogo ("Jingo the empress"), a Japanese ruler. On the death of her husband the emperor Juai in 201, she became regent for her son Ojin-Tenno. The Japanese paper currency of 1884 bears her figure. She died in 269.

Jinrickishaw, a light two-wheeled carriage, resembling a gig, containing one or two persons, and drawn by a human runner between the shafts, universally used in Japan.

Joab, son of Zeruiah, David's sister, and brother of Abishai and Asahel, was the commander of David's army during almost the whole of his reign (II Sam. v: 6–10). Valiant but unscrupulous, he committed many crimes, and was at length put to death by Solomon, (I Kings ii).

Joan, Pope, a famous mythical personage. When Pope Leo IV. died in 855, the clergy and people of Rome having met to elect his successor, chose a young priest, a stranger in Rome, who had acquired an immense reputation for learning and virtue, and styled him John VIII. The supposed priest was in reality a young Englishwoman, daughter of an English missionary, who had been established at Fulda.

Joan of Arc, or **Jeanne d'Arc,** the Maid of Orleans; born of poor but devout parents, in the village of Domremy, Jan 6, 1412. Her religious faith was ardent almost from her cradle. During that unhappy time of national degradation a prophecy, ascribed to Merlin, was current in Lorraine, that the kingdom lost by a woman (Queen Isabella) should be saved by a virgin and no doubt this together with her visions, helped to define her mission to the brooding and enthusiastic mind of the young peasant girl. She put on male dress and a suit of white armor, mounted a black charger, bearing a banner of her own device. Her sword was one that she divined would be found buried behind the altar in the Church of St. Catharine de Fierbois. Thus equipped she put herself at the head of an army of 6,000 men, dictated a letter to the English, and advanced to aid Dunois in the relief of Orleans. Her arrival fired the fainting hearts of the French with a new enthusiasm, and on April 29, 1429, she threw herself into the city, and, after 15 days of fighting, the English were compelled to raise the siege and retreat. At once the face of the war was changed, the French spirit again awoke, and within a week the enemy were swept from the principal positions on the Loire. But all thoughts of self were lost in devotion to her mission, and now, with resistless enthusiasm, she urged on the weak-hearted Dauphin to his coronation. On May 24, 1430, she threw herself with a handful of men into Compiegne, which was then besieged by the forces

of Burgundy; was left behind by her men, taken prisoner, and sold to the English by John of Luxembourg. In December she was carried to Rouen, the headquarters of the English, heavily fettered and flung into a gloomy prison, and at length she was arraigned before the spiritual tribunal of Pierre Cauchon. Her trial was long, and was disgraced by every form of shameful brutality. She was burned at the stake May 30, 1431.

Joanna, one of the faithful women who ministered to Christ while living, and brought spices to his tomb. Her husband Chuza was a steward to Herod Antipas.

Joash, or **Jehoash,** the 8th King of Judah; born in 878 B. C. The prophet Joel was contemporary with him. He died in B. C. 838.

Joash II., the son and successor of Jehoahaz, King of Israel. There was much in his conduct to commend, and he was one of the best kings of Israel.

Job, a patriarch notable for his patience. In the English version of the Bible, Job stands 1st in order of the poetic books of the Old Testament, but it is the 3d in the Hebrew Scriptures, Psalms and Proverbs preceding it, and the Song of Solomon coming next. A prologue (ch. i., ii.) and the conclusion (ch. xlii: 7–17), are in prose. The rest is poetry and of a very high order. In the historical prologue Job is introduced as deeply pious and exceedingly prosperous. Satan insinuates that he is pious simply because God has bribed him to be so by means of his prosperity. Remove the latter, and the former will also depart. Instead of blessing, he will curse God to His face. To prove the falsity of this charge, Satan is allowed to strip Job of possessions and children and to afflict him with a loathsome disease. The patriarch bows uncomplainingly to the Divine decision, while the piety of his wife breaks down in the trial. Job's three friends — Eliphaz, Bildad, and Zophar — arrive to comfort him, and the poetry begins. Job, in despair, curses the day of his birth; Eliphaz replies, and Job makes a rejoinder. Bildad follows, and Job answers him. Zophar next speaks, and Job again replies (ch. iii.–xiv.). Each of the three friends speaks anew, Job thrice replying (xvi–xxii). Then follow Eliphaz and Job, and Bildad and Job, Zophar remaining silent. A fourth speaker, a young man, Elihu, dissatisfied with the reply of the older three, feels vehemently moved to put in his word, and does so (xxxii–xxxvii). All the four proceed on the erroneous notion that whoever suffers more than others must have previously sinned more grievously than they (Luke xiii: 1–5). They infer that Job must have done so, Job, on his part, having long since been provoked to exclaim: "Miserable comforters are ye all!" (xvi: 2). Jehovah then answers the patriarch out of the whirlwind, and vindicates his conduct and views, Job answering in deepest abasement (xxxviii–xlii: 6). The comforters are censured, are enjoined to offer sacrifice, and are pardoned on the intercession of Job, to whom are born exactly the same number of children he had lost (see i: 2, and xlii: 13), while he is granted twice his former possessions though before he "was the greatest of all the men of the earth." (see i: 3 and xlii: 12). He lives 140 years after his trial.

The book of Job is absolutely unique in the Old Testament. The hero is not a Jew. While the name Jehovah is used, the whole history of the Mosaic law and the chosen people is ignored. The author seems well acquainted with Egypt. The language is Hebrew, with various Aramaisms, and with a faint Arabic tinge. The view still held by most commentators is that the book is very ancient and its author probably Moses. The Talmud originated the view, since adopted by various Biblical critics, that the book is only a parable. But against this view may be quoted Ezek. xiv: 14, 20, and James v: 11.

Jochebed, the wife of Amram, and mother of Moses, Aaron, and Miriam. She was a daughter of Levi, and her husband's aunt though such marriages were afterward prohibited.

Jodhpur, a town of Hindustan, capital of the state of Jodhpur. The State of Jodhpur is the largest in Rajputana, having an area of 37,000 square miles.

Joel, the name of a Hebrew prophet and of more than 12 other persons mentioned in the Old Testament, etc. I Sam. viii: 23; I Chr. iv: 35, v: 12.

Joel, Book of, a prophetic book of the Old Testament, written by Joel, the second of the minor prophets. Nothing is known of him except that he was the son of Pethuel. The main object of his book is to counsel repentance, in connection with a fearful visitation of locusts, accompanied by drought, which had desolated the land (ch. i, ii: 1–12). Then there follows a prediction that the Spirit of God should be poured out on all flesh, with celestial revelations to young and old (ii: 28), a passage which St. Peter refers to as being fulfilled in the Pentecostal effusion of the Holy Ghost (Acts ii: 16–21). The canonical authority of Joel has never been seriously disputed.

Joe Miller (from Joseph Miller, 1684–1738, a witty actor, who was a favorite about the time Congreve's plays were fashionable), a stale jest. The compilation, "Joe Miller's Jests," published a year after the death of the supposed author, was the work of John Mottley (1692–1750), but the term has been used to pass off, not only the original stock, but thousands of jokes manufactured long after Miller was buried.

Johannesburg, a town in the Transvaal, recognized as the central point of the gold fields of the district stretching S. W. from Pretoria to Potchefstrom, and known as the Witwatersrand. The streets and squares of the town are well laid out, and the buildings solid and substantial. Climate agreeable and healthy; winter nearly rainless, dust storms then prevailing. Founded in September, 1886, toward the close of 1893 was estimated to contain a European population exceeding 40,000.

John, the name of four men mentioned in the New Testament.

(1) John the Baptist, the forerunner of Christ, was the son of the priest Zacharias and Elizabeth, the cousin of Mary, the mother of our Lord. He was a Nazarite from his birth, and he prepared himself for his mission by years of self discipline in the desert until at length he appeared to startle his hearers with the preaching of repentance. With the baptism of Jesus the more especial office of the forerunner ceased, and soon after his ministry came to a close. He had fearlessly denounced Herod Antipas for taking Herodias, his brother Philip's wife, and was accordingly flung into prison, where ere long he was executed at the request of Salome, the daughter of the abandoned Herodias.

(2) John the Apostle. His father was Zebedee, his mother Salome. His father was a fisherman who kept hired servants (Mark i: 20), and was therefore of some position. John was called with his brother James to follow Jesus (Matt. iv: 21). In the first three Gospels he figures as Boanerges, or Son of Thunder (Mark iii: 17). In the 4th gospel the loving elements of his character alone appear. He was the disciple whom Jesus loved (John xx: 2). At the crucifixion the mother of Jesus was intrusted to his care, and he took her to his house (John xix: 27). With Peter he was early at the sepulcher (xx: 2–4). After the resurrection he remained at Jerusalem for at least 15 years (Acts iii., iv; see xv: 6 and Gal. ii: 9). At a later period he was banished to Patmos, where he saw the apocalyptic vision (Rev. i: 9). Tradition makes his last sphere Ephesus, where he died at an advanced age.

(3) A dignitary mentioned in Acts iv: 6.

(4) John Mark.

The Epistles General of John.— The first epistle: No name indicating authorship appears in the letter itself, but the style is that of the 4th gospel, and 35 passages are nearly the same in each. The external evidence for its genuineness and authenticity is very strong. Its date has been fixed between A D. 70 and 96 or 100, the last being the most probable. The epistle treats of love.

The second epistle: It is written by "the elder" to "the elect lady and her children."

The third epistle: This was addressed by "the elder" to "the well-beloved Gaius."

The Gospel According to John.— The 4th Gospel, and distinct from the others in various respects. They record chiefly the ministry of Jesus in Galilee; it treats of His labors in Jerusalem. While they chiefly illustrate His humanity, it gives special prominence to His divinity. But there are resemblances too. The family of Bethany

figures in Luke x: 38–42, as well as in John. So also the crucifixion and the resurrection are recorded in them all.

The author of the book of John was well acquainted with the topography of Jerusalem (v: 2, ix: 7), and with the Jewish feasts, which he carefully records (ii: 13, vii: 2, x: 22, etc.). The book itself does not name its author; the nearly uniform voice of antiquity assigned it to John. In modern times there has been serious controversy on the subject.

John, a name borne by 23 Popes.

John, King of England; born in Oxford in 1166, was the youngest son of Henry II. by Eleanor of Guinne. He gave up his kingdom to the Pope, receiving it again as a vassal. He rendered himself the object of such universal contempt and hatred that his nobles determined, if possible, to limit his power and establish their privileges; and though the Pope declared his disapprobation of their conduct, the barons assembled in arms at Oxford, where the court then was, and immediately proceeded to warlike operations. They were received without opposition in London, which so intimidated the king that he consented to whatever terms they chose to dictate. Thus was obtained that basis of English constitutional freedom known as "Magna Charta," which not only protected the nobles against the crown, but secured important privileges to every class of freemen. John, having collected an army of mercenaries, carried war and devastation throughout the kingdom. The barons sent a deputation to Philip of France, offering the crown of England to the dauphin Louis; who proceeded to London, where he was received as lawful sovereign. John was immediately deserted by all his foreign troops and most of his English adherents; but the report of a scheme of Louis for the extermination of the English nobility arrested his progress. While the king's affairs were beginning to assume a better aspect, he was taken ill, and died in Newark in 1216.

John III., King of Portugal, succeeded his father, Emanuel, 1521. The beginning of his reign was marked by dreadful earthquakes. His fleets penetrated far into the East and discovered Japan; and to insure the tranquillity of his Indian settlements he sent among them the celebrated Francis Xavier. He died in 1557.

John III. (John Sobieski), King of Poland, was youngest son of James Sobieski, governor of Cracow, and educated at Paris. In 1665 he was made grand marshal and general of the Polish armies. He retook several cities from the rebellious Cossacks. In 1673 he gained the memorable battle of Choczim, near the Dniester, in which the Turks lost 28,000 men. On the death of Michael in the following year he was elected King of Poland, and shortly afterward compelled the Turks to sue for peace. He died in Warsaw, 1696.

John Adams, The, an American sloop of war, commanded by Captain Charles Morris, who, in order to prevent her being captured by a British fleet, in August, 1814, burned her in the Penobscot river, after transferring her guns to a battery on shore at Hampden.

John Bull, a collective name, used in a sportive manner in order to designate the English people. It was first employed by Dean Swift. It is employed to express the insular peculiarities and prejudices of the English nation, and especially their inability to accommodate themselves to the circumstances of foreign countries.

John Doe, a fictitious name used in legal proceedings, civil and criminal. It is used under the laws of New York for the purpose of making a judicial inquiry to ascertain whether a crime has been committed by one or more public officials, without actually putting any person on his defence.

John Hircanus, son of Simon Maccabæus, whom he succeeded as high priest and prince of the Jews, 135 B. C.; died after a reign of 29 years, distinguished by his victories and reforms, 106 B. C.

John of Austria, or **Don John,** a Spanish soldier; the natural son of the Emperor Charles V.; born in Ratisbon, Bavaria, Feb. 24, 1547. He was brought up in such ignorance of his birth that, till summoned by Philip II., his brother, to Spain, and there acknowledged as the emperor's son, he had been in total darkness as to who his parents were. His first triumph

was a victory over the Turkish galleys in the Gulf of Lepanto, in which the Ottomans lost 30,000 men; he next invaded Tunis, and in 1576 was sent by Philip as governor of the Low Countries; here, in a succession of splendid victories, he so reduced his antagonists that the country must soon have submitted and returned to its allegiance, had he not been suddenly carried off by poison, near Namur, Belgium, Oct. 1, 1578.

John of Gaunt, Duke of Lancaster, 3rd son of Edward III.; born June 24, 1340, in Ghent. He was a noted character in English history. He died in London, England, Feb. 3, 1399.

John o' Groat's House, in Caithness, Scotland, was, according to tradition, an octagonal building with eight doors and windows and an eight-sided table within, built by John o' Groat to prevent dissensions as to precedence among the eight different branches of his family. Between 1496 and 1525 there was one "John o' Groat of Duncansbay, baillie to the Earl in those pairts."

John's, Eve of St., one of the most joyous festivals of Christendom during the Middle Ages, celebrated on midsummer eve.

Johns Hopkins University, an American educational institution in Baltimore, Md.; incorporated in 1867, during the lifetime of the founder, but not formally opened till 1876, after his death. The hospital maintained in connection with the institution is liberally endowed. Connected with the university is likewise a thriving press.

Johnson, Andrew, an American statesman, 17th president of the United States; born in Raleigh, N. C., Dec. 29, 1808. At 10 years of age he was indentured to a tailor, for whom he worked for seven years, receiving no schooling, but was taught to read by a fellow-apprentice. In 1826, with his mother, he emigrated to Tennessee. Here he married Eliza McCardle, a woman of good education, who instructed him in writing and other accomplishments. He was three times elected alderman, and then mayor in 1828–1830. In 1835 and in 1839 he was sent to the Tennessee Legislature. In 1840 he made campaign speeches for Van Buren that gave him a wide reputation for oratory. In 1843 he was elected to Congress, and reëlected in 1845, 1847, 1849, and 1851. In 1853 Tennessee was "gerrymandered" to prevent his election, whereupon he ran for governor and was elected. In 1857 he was sent to the United States Senate, where he ably advocated and secured the passage of a homestead bill which President Buchanan vetoed. He ardently advocated the Union cause, and was made military governor of Tennessee by Lincoln in 1862, where he gave vigorous support to the Federal government. In 1864 he was elected Vice-President, with Lincoln, and on the assassination of Lincoln, in April, 1865, he became President by succession. His administration was marked by constant dissension between himself and Congress, and he was impeached before that body for resisting the execution of the acts of Congress and various alleged "high crimes and misdemeanors." The trial was presided over by Chief Justice Salmon P. Chase. A two-thirds vote necessary to convict could not be secured, and the trial failed (May 16, 1868). A change of one vote, however, would have carried conviction. When his term expired he retired to Tennessee, and in 1875 was elected to the United States Senate, but died July 31, of that year.

Johnson, Bradley Tyler, soldier, lawyer and author, born Frederick, Maryland, Sept. 29, 1829; student at Princeton and Harvard; brigadier-general in the Confederate army; died October, 1903.

Johnson, Bushrod Rust, an American military officer; born in Belmont co., O., Oct. 7, 1817. He was graduated at the United States Military Academy in 1840. He saw service in the Florida and Mexican Wars, but resigned his commission in 1847, and was made professor in the Western Military Institution of Kentucky, at Georgetown. He entered the Confederate army as a Brigadier-General at the commencement of the Civil War, and in 1864 became a Major-General. He commanded a division under General Lee till the surrender at Appomattox Court House. He was afterward appointed Superintendent of the Military College in the University of Nashville, and chancellor of that institution. He died Sept. 11, 1880.

Johnson, Charles Frederick, an American author; born in New York city in 1836. He was graduated at Yale in 1855; became Professor of English Literature at Trinity College, Hartford, Conn., in 1883. He is author of a number of text-books.

Johnson, Eastman, an American painter; born in Lovell, Me., July 29, 1824. In 1849 he went to Dusseldorf, where he studied two years, and afterward resided for four years at The Hague. He returned to New York in 1856. His favorite subjects are the American rustic and negro, and glimpses of domestic life.

Johnson, Emily Pauline (Tekahionwake), a Canadian poet; born in the Six Nations Reserve, Canada. She is of Indian descent.

Johnson, Helen Kendrick, an American author; born in Hamilton, N. Y., Jan. 4, 1843. In 1869 she married Rossiter Johnson.

Johnson, Oliver, an American editor; born in Peacham, Vt., Dec. 27, 1809. He was editor of the "Independent" from 1865 to 1870; became editor of the "Christian Union" in 1872; was one of the founders of the New England Anti-Slavery Society in 1832. He died in Brooklyn, N. Y., Dec. 10, 1889.

Johnson, Reverdy, an American lawyer and statesman; born in Annapolis, Md., May 21, 1796; was admitted to the bar in 1815. In 1821 he was elected State senator and reëlected in 1825. In 1845 he was chosen United States senator, and in 1849 was appointed by President Taylor, attorney-general. In 1868, he was appointed United States minister to the Court of St. James, where he negotiated a treaty for the settlement of the "Alabama" claims, which the United States rejected. He died in Annapolis, Feb. 10, 1876.

Johnson, Richard W., an American military officer; born near Smithland, Ky., Feb. 7, 1827. He was graduated at United States Military Academy in 1849. From 1855 to 1861 he was engaged in campaigns against the Indians. On the outbreak of the Civil War he was made Brigadier-General of volunteers. At the end of hostilities he retired with the rank of Major-General for wounds received, but under a subsequent law of Congress, which retired officers on the rank actually held when disabled, he was reduced to the rank of Brigadier-General. He held professorship of military science at leading universities after his retirement. He died in St. Paul, Minn., April 21, 1897.

Johnson, Robert Underwood, an American poet and editor; born in Washington, D. C., Jan. 12, 1853; became associate editor of the "Century Magazine." His efforts in behalf of the establishment of international copyright were recognized by the degree of M. A., conferred by Yale University in 1891.

Johnson, Rossiter, an American editor; born in Rochester, N. Y., Jan. 27, 1840.

Johnson, Samuel, one of the most distinguished English writers of the 18th century; born in Lichfield, England, where his father, Michael Johnson, was a bookseller, Sept. 18, 1709; he gained distinction as the editor of various important publications. Among many great works the most useful to mankind was his "Dictionary," which was received by the public with very general applause; and though its neglect of the Northern etymologies, and the defects rendered apparent by more recent research have somewhat lessened its original reputation, it still remains the basis of works of the kind in the English language.

In 1759 he wrote his celebrated romance of "Rasselas, Prince of Abyssinia," which fine performance he composed in the evenings of one week in order to defray the funeral expenses of his aged mother. At length in 1762 the Bute administration granted him a pension of $1,500 per annum, which he accepted after a short struggle against the reception of a favor from the house of Hanover. In the following year (May 16), in spite of his well-known inveterate prejudice against the Scotch, the first interview with his now equally famous biographer, James Boswell, was effected in the back parlor of Tom Davies, actor and bookseller. The acquaintance then commenced was sedulously cultivated by Boswell, and for more than 20 years the worship of his great friend was the grand, ideal, voluntary business of his life.

The concluding portion of Johnson's life was saddened by the loss of many old friends and by declining health. In 1783 he was greatly alarmed by a paralytic stroke and his health never wholly recovered from the shock, though he lived till Dec. 13, 1784. For some days previous he retained all his horror of dissolution; but he finally died with devotional composure. His remains were interred in Westminster Abbey with great solemnity. His statue has been placed in St. Paul's.

Johnson, Sir William, a British officer; born in Warrentown, County Down, Ireland, in 1715. In 1738 Johnson established himself on the Mohawk river, about 27 miles from Schenectady, N. Y. Here he speedily gained the confidence of the surrounding Indians, learned their language, and was adopted as a sachem by the Mohawks. In 1743 he was appointed by the British government chief superintendent of the Indians, and in 1750, a member of the provincial council. In 1755 he met and destroyed the French army under Baron Dieskau, at Fort George. In recognition of his services, Johnson was presented by the English government with a grant of 100,000 acres of land in the valley of the Mohawk, where he built the village of Johnstown, near where he died July 4,1774.

Johnston, Albert Sidney, an American military officer; born in Macon co., Ky.. in 1803; was graduated at the United States Military Academy in 1826; resigned his commission in the United States army in 1834, and enlisted in the army of Texas, of which he became commander-in-chief; made secretary of war of the Republic of Texas in 1838. He used all his influence in bringing about the annexation of Texas to the United States; and served in the Mexican War with marked distinction. In 1857 he was put in command of an expedition to Utah to force the Mormons to submit to the laws of the United States government, and showed such ability and tact in the delicate mission that he was brevetted Brigadier-General. When the Civil War broke out he was in command of the Department of the Pacific, but promptly resigned; was made a General in the Confederate army and assigned to the command of the Department of Kentucky. He was killed at Pittsburg Landing, April 6, 1862.

Johnston, Joseph Eggleston, an American military officer; born in Cherry Grove, Va., Feb. 3, 1807; was graduated at the United States Military Academy in 1829; greatly distinguished himself in the Florida and Mexican Wars; promoted quartermaster-general of the army with the rank of Brigadier-General in June, 1860; resigned his commission when Virginia seceded; made Major-General of Virginia Volunteers and later full general in the Confederate service; took an active part in the first battle of Bull Run, where he personally led a charge with the colors of the 4th Alabama Regiment in his hands. In December, 1863, he took command of Bragg's army at Dalton, Ga., and by the spring of 1864 brought it to a state of efficiency which it had not had for a long time, though it contained only 45,000 men against Sherman's 98,797. On July 17, 1864, Johnston was succeeded in this command by General Hood. After the war he engaged in business; was member of Congress in 1876–1878, and United States Commissioner of Railways in 1885–1889. He died in Washington, D. C., March 21, 1891.

Johnston, Richard Malcolm, an American author; born in Powelton, Ga., March 8, 1822; was graduated at Mercer University in 1841; admitted to the bar in 1843; Professor of Literature in the University of Georgia in 1857–1861; was an officer in the Confederate service during the Civil War. In 1867 he settled in Baltimore, Md., and devoted himself to literature. Died in Baltimore, Md., Sept. 23, 1898.

Johnston, William Preston, an American educator; born in Louisville, Ky., Jan. 5, 1831; was graduated at Yale College in 1852 and at the Louisville Law School in 1853; colonel and aide-de-camp to Jefferson Davis in the Confederate army during the Civil War; and was president of Tulane University, New Orleans, from 1884 till his death. He died in Lexington, Va., July 16, 1899.

Johnstown, a city in Cambria co., Pa., 78 miles E. of Pittsburg. It contains the great Cambria iron and steel plant, wire, tinplate, wall-paper, paint, cement, fire brick, and leather and

woolen manufactories. On May 31, 1889, the city was the scene of a terrible disaster caused by the breaking of the dam across the South Fork of the Conemaugh river, at a point 10 miles E. of the city. The entire valley was in a few minutes devastated and the city of Johnstown and its surrounding villages were practically swept away. Various estimates placed the loss of life at from 2,300 to 5,000, and the property destroyed was estimated at $10,000,000. Pop. (1900) 35,936.

Joinder, in law, the joining or coupling of two things in one suit or action; also the joining or coupling of two or more parties as defendants in one suit; or the acceptance by a party in an action of the challenge laid down in his adversary's demurrer or last pleading.

Joint Stock, stock held jointly or in company. A joint stock company is a kind of partnership entered into by a number of individuals for the purpose of carrying on some trade or business with a view to individual profit; invested by statutes, in many of the United States, with some of the privileges of a corporation. In ordinary partnerships the members contribute more or less of their own personal labor or management to the affairs of the company. In joint stock partnerships, on the other hand, the members only contribute to the funds or "stock" of the company without having any direct share in the management; and hence their name.

Jointure, an estate in lands or tenements settled upon a woman in consideration of marriage, and which she is to enjoy after her husband's decease.

Joinville, Francois Ferdinand Philippe Louis Marie d'Orleans, Prince de, third son of Louis Philippe, King of France; born in Neuilly, near Paris, France, Aug. 14, 1818. On completing his education he entered the French navy. In 1836 he became lieutenant; during the war with Mexico, in 1838, he engaged the batteries of St. Jean d'Ulloa, with his corvette the "Creole"; and shortly afterward, at the head of his sailors, stormed the gate of Vera Cruz and took prisoner General Arista, for which he received the cross of the Legion of Honor, and was appointed post-captain; in 1840 he brought to France from St. Helena the remains of Napoleon I. With his nephews, the Comte de Paris and the Duc de Chartres, he accompanied General McClellan in the Virginian campaign of 1862, and published on it an impartial article in the "Review of Two Worlds," of 1863; he served incognito in the Franco-Prussian war, 1870–1871; in 1873 he was elected to the French Assembly. He died in Paris, France, June, 17, 1900.

Jokai, Maurus, a Hungarian novelist; born in Komora, Feb. 19, 1825. He studied law, but never practised. During the Hungarian struggle of 1848 he was an active patriot, but after the restoration of Austrian rule he was obliged to abstain from political writing and thereafter devoted himself to fiction. He wrote almost 300 volumes, including novels, dramas, poems, etc. In January, 1894, all Hungary united in celebrating the 50th anniversary of his first book, "Working Days." He married Rosa Laborfalvi, the great Hungarian actress.

Joliet, Charles, a French journalist; born in St. Hippolyte-on-the-Doubs, France, Aug. 8, 1832. He contributed to every periodical of note in Paris, producing likewise volumes in light and serious vein.

Joliet, Louis, a French-Canadian explorer; born in Quebec, Canada, Sept. 21, 1645. Educated for the priesthood, he became a merchant. In 1672 he was commissioned by Frontenac, the governor of New France, to make explorations in that country, and in 1673, in company with Father Marquette, a Jesuit priest, and five other Frenchmen, he explored the Fox, Wisconsin, Illinois, and Mississippi rivers. He died in May, 1700.

Jonah, a prophet, the son of Amittai, and a native of Gath-hepher. He lived prior to or in the reign of Jeroboam II., who became king 824 B. C.

The Prophecies of Jonah are fifth in order of the minor prophets, but perhaps the first in date. The book is partly in prose, partly in poetry. It opens with a divine command given to Jonah to go to Nineveh and cry against it for its wickedness. In place of obeying this injunction, the prophet, who was of perverse disposi-

tion, went to the sea and paid his fare for a voyage to Tarshish. A storm arising, the story continues, those on board cast lots to ascertain whose delinquency had raised the tempest, and the lot fell on Jonah. He, having admitted that he was fleeing from Jehovah, was cast overboard by his comrades, when the agitated ocean sank into a calm. A great fish swallowed the prophet, who remained alive in the body three days and three nights. His prayer offered from his living dungeon being answered, the fish vomited him out on the dry land. The closing episode of the narrative represents the prophet in the execution of his ministry. A second time he was ordered to go to Nineveh, and this time he obeyed. The people, alarmed by his declaration that in 40 days the city should be destroyed, humbled themselves before God and thus averted the threatened judgment.

Jonathan, a son of Saul, and the constant and unshaken friend of David, proving the sincerity of his regard by repeatedly saving his friend's life when threatened by the fury of his father. Jonathan fell in battle in the war with the Philistines.

Jones, Charles Colcock, an American author; born in Savannah, Ga., Oct. 28, 1831. He was lieutenant-colonel in the Confederate service during the Civil War, afterward removing to New York, where he practised law. He died July 19, 1893.

Jones, Davy, in sailors' superstition, an evil spirit of the sea, whose locker or chest is the bottom of the ocean. The name appears to be derived from that of Jonah.

Jones, Jacob, an American naval officer; born near Smyrna, Del., in March, 1768; joined the United States navy in 1799; served in the war with Tripoli; was captured in 1803 and held a prisoner for 18 months; made commander of the "Wasp" in 1811, and with her captured the English brig "Frolic" Oct. 18, 1812; but on the following day he fell in with the English war vessel "Poictiers," 74 guns, by which both the "Wasp" and its prize were taken. For his victory over the "Frolic" Jones was voted a gold medal by Congress, and $25,000 was granted to him and his crew in payment of the personal loss they had sustained. He died in Philadelphia, Pa., Aug. 3, 1850.

Jones, John Paul, an American naval officer; born in Kirkham, Kirkcudbrightshire, Scotland, July 6, 1747. His father, whose name was John Paul, was gardener to the Earl of Selkirk. He entered the merchant service, was engaged in the American and West Indian trade, and is said to have realized a handsome fortune. On the outbreak of war between the colonies and mother country he offered his services to the former, and in 1778, being then in command of the "Ranger," he made a descent on Whitehaven, set fire to the shipping, and plundered the Earl of Selkirk's mansion. Next year, in command of the "Bon Homme Richard" (42 guns) and a small squadron, he threatened Leith, and captured the British sloop of war "Serapis" after a bloody engagement off Flamborough Head. On his return to America he was somewhat neglected by Congress, and in 1788 entered the Russian service with the rank of rear-admiral, but owing to the jealousy of the Russian commanders soon retired from this service. He returned to Paris, where he died in poverty and ill health, July 18, 1792. His capture of the "Serapis" was one of the greatest exploits in naval warfare.

Jones, Joseph Stevens, an American playwright; born in 1811; was graduated at the Harvard Medical School in 1843, and practised for several years; proprietor and manager of the Tremont, Old National, and other theaters in Boston at different times. He was the author of about 200 plays. He died in Boston, Mass., Dec. 30, 1877.

Jongleurs, among Provencals and Northern Frenchmen, a class of minstrels during the Middle Ages who sang and often composed poems, songs, and fabliaux, and who frequented courts, tournaments, castles, and towns for that purpose.

Jonquil, a bulbous plant allied to the daffodil. It has long lily-like leaves, and spikes of yellow or white fragrant flowers. The sweet-scented jonquil is also generally cultivated. Perfumed waters are obtained from jonquil flowers.

Jonson, Benjamin, commonly called Ben Jonson, a celebrated Eng-

lish dramatist, the contemporary and friend of Shakespeare; born in Westminster, England, in 1573. In 1598 he produced his comedy of "Every Man in His Humor," which was followed by a new play every year till the reign of James I., when he was employed in the masques and entertainments at court. In 1619 he was appointed poet-laureate, with a salary of $500, and a butt of canary wine yearly from the king's cellars. Want of economy, however, kept him constantly poor, though in addition to the royal bounty he had a pension from the city. He died Aug. 16, 1637, and was buried in Westminster Abbey, where a tablet has been erected to his memory in Poet's Corner, inscribed, "O rare Ben Jonson."

Jordan ("descending"), the principal river of Palestine, the bed of which forms a great valley stretching from N. to S., in the E. part of the country. It is formed by the junction of three streams. The Jordan flows S., and after a course of a little over 100 miles it falls into the N. extremity of the Dead Sea, 1,292 feet below the Mediterranean.

Jordan, David Starr, an American educator; born in Gainsville, N. Y., Jan. 19, 1851. He studied at Cornell and Harvard. After holding important professorships he served as president of the University of Indiana from 1885 to 1891. In the latter year he was made president of Leland Stanford Jr. University. He wrote "Care and Culture of Men," etc., and served on a number of important government commissions, especially in connection with the fisheries.

Jordan, Thomas, an American military officer; born in Luray, Va., Sept. 30, 1819; was graduated at the United States Military Academy in 1840; promoted 1st lieutenant in June, 1846, and distinguished himself in the Mexican War; was promoted captain in March, 1847; was stationed on the Pacific coast in 1856–1860, during which time he introduced steam navigation above the Dalles, on the Columbia river. He entered the Confederate service in 1861, with the rank of lieutenant-colonel; promoted Brigadier-General for gallantry at the battle of Shiloh. In 1869 he went to Cuba, where he was made chief of the general staff of the insurgent army and soon afterward commander-in-chief of the revolutionists; won a battle at Guarmaro, in January, 1870. In the following year he resigned and settled in New York city, where he became editor of "The Financial and Mining Record." He died in New York city, Nov. 27, 1895.

Jordan, William George, an American journalist; born in New York city, March 6, 1864; was graduated at the College of the City of New York; began his career as an editor in 1884, and afterward was engaged in the preparation of "Jordan's Guide to Poetry and Prose"; became managing editor of the "Ladies' Home Journal" in 1897, and of "The Saturday Evening Post" in 1898. Since 1899 he has been with the Continental Publishing Company.

Jorullo, Xurullo, or **Xorullo,** a volcano of Mexico, about 75 miles S. S. W. of Valladolid, and 80 miles from the Pacific Ocean. The site of this remarkable mountain was formerly a fertile plain, about 2,890 feet above sea-level, but a violent eruption, on Sept. 28 and 29, 1759, raised it to an elevation of 4,265 feet, and sent forth immense quantities of lava, with stones of great size. The San Pedro and Cuitimba, two rivers which formerly watered this tract, sink into the earth on the E. side, and appear again as hot springs on the W. side of the elevation.

Joseffy, Rafael, generally regarded as the ablest of living pianists; born in Miskolz, Hungary, in 1853; pupil of Moscheles and of Taussig; has made most successful concert tours in the United States and Europe, and now teaches in New York. He is the composer of numerous musical works and productions for the piano, and has just issued his most important work, which is meeting with great success.

Joseph, the son of Jacob and Rachel; born in Mesopotamia 1747 B. C. His history is one of the most pleasing and instructive in the Bible; and is related in language inimitably natural, simple, and touching. It is too beautiful for abridgment, and too familiar to need rehearsal. Joseph died, aged 110, 1637 B. C.; and when the Israelites, a century and a half later, went up from Egypt, they took his bones, and at

length buried them in Shechem. A Mohammedan wely or tomb covers the spot regarded generally, and it may be correctly, as the place of his burial. It is a low stone enclosure, and stands in quiet seclusion among high trees at the W. entrance of the valley of Shechem, at the right of the traveler's path, and nearer Mount Ebal than Mount Gerizim.

Joseph, the husband of Mary, Christ's mother. His genealogy is traced in Matt. i: 1–15, to David, Judah, and Abraham. His residence was at Nazareth in Galilee, where he followed the occupation of a carpenter, to which Christ was also trained (Mark vi: 3). When he became the husband of Mary, he was somewhat advanced in age, and is generally supposed to have died before Christ began His public ministry.

Josephine, Marie Rose, Empress of the French; born in the island of Martinique, June 23, 1763. When about 15 years of age she went to France, and in 1779 married Viscount Alexandre Beauharnais. A daughter of this marriage, Hortense, Queen of Holland, was the mother of the Emperor Napoleon III. Josephine's husband was executed during the Reign of Terror, she herself just escaping. On March 9, 1796, she was married to Napoleon Bonaparte. But her marriage with Napoleon proving unfruitful. it was dissolved by law, Dec. 16, 1809. She died in Malmaison, near Paris, May 29, 1814. Napoleon was deeply attached to her, and careful of her welfare even after the divorce, and she on her part loved him to the last.

Josephus, Flavius, a famous Jewish historian; born in Jerusalem in A. D. 37. He was a Jewish officer and took part in the revolt against Rome, but is best known for his historical writings. His works are written in Greek, and are: "History of the Jewish War" (about A. D. 75); "Jewish Antiquities" (about A. D. 93); His own "Life" (not earlier than A. D. 97); "A Treatise on the Antiquity of the Jews," or "Against Apion." He died about A. D. 100.

Joshua, the name of four persons mentioned in the Old Testament. One, the Jeshua of Ezra v: 2, is the earliest and most celebrated of the four, after whom the other three were named, was the son of Nun, an Ephraimite. Before the death of Moses, Joshua was divinely named his successor and formally invested with authority. He afterward led the Israelitish host in the conquest of Canaan. He died at the age of 110, and was buried at Timnath-serah, in Mount Ephraim.

The Book of Joshua.—The 6th book of the Old Testament, immediately succeeding the Pentateuch in the Hebrew. The name appears to have been given because Joshua was the leading human personage in the book. The events recorded are considered to have occupied about 25 years, from 1451 to 1425 B. C.

Josiah, King of Judah. He succeeded his father, Amon, 641 B. C., at the age of eight years. He destroyed the idols and restored the worship of the true God, established virtuous magistrates for the administration of justice, and repaired the temple. He also caused the law of Moses to be sought for and preserved. He was wounded in a battle fought at Megiddo against Necho, King of Egypt, and died in 610 B. C.

Joss, the penates of the Chinese; every family has its joss. A temple is called a joss house.

Joss Stick, in China, a small reed covered with the dust of odoriferous woods, and burned before an idol.

Joubert, Leo, a French biographer; born in Bourdeilles, Dordogne, France, Dec. 13, 1826. He is skillful, accurate, and readable, as a miscellaneous biographical writer; and his best studies, "Washington and the Formation of the Republic of the United States of America" (1888), "Alexander the Great" (1889), and "The Battle of Sedan" (1873), are popular.

Joubert, Petrus Jacobus, a Boer military officer; born in Cango, Cape Colony, in 1834; received a rudimentary education; settled in the Walkerstroom district of the Transvaal in early manhood; was elected to the Transvaal Volksraad in 1863; acting president of the republic in 1874; appointed a member of the triumvirate of 1880 to conduct war against Great Britain. On Feb. 27, 1881, he surprised the British encampment with a small force and won a decided vic-

tory, which soon resulted in terms of peace. He was acting president of the republic again in 1883–1884; trained the Boer army in the tactics which proved so successful against the vastly superior British army sent against the Transvaal and Orange Free State in 1898. He died in Pretoria, March 27, 1900.

Jouett, James Edward, an American naval officer; born in Lexington, Ky., Feb. 27, 1828; was graduated at the United States Naval Academy in 1847; destroyed the Confederate warship "Royal Yacht" in Galveston harbor in 1861; promoted lieutenant-commander in July, 1862; participated in the action at the entrance of Mobile Bay in 1864; directed the operations for the protection of American interests on the Isthmus of Panama during a rebellion in 1885; promoted rear-admiral, Feb. 19, 1886; retired, 1890. He died October 1, 1902.

Jouffroy d'Abbans, Claude, Marquis de, claimed by the French as the inventor of steam navigation; born in 1751. He served in the army, and in 1783 made a small paddle-wheel steamboat sail up the Rhone at Lyons — the connection between piston and paddle-wheel axle being rack-and-pinion. Compelled to emigrate by the Revolution, he failed, on account of financial ruin, to float a company till after Fulton had made his successful experiments on the Seine in 1803. He died in 1832.

Joule (named from the eminent English physicist, James P. Joule), in electricity, the unit of heat and work; the voltcoulomb.

Joule, James Prescott, an English physicist; born in Salford, England, Dec. 24, 1818. He studied under Dalton the chemist, made researches in electro-magnetism, about 1840 turned his attention to the subject of heat, and settled the theory of the mechanical equivalent of heat; which established that the quantity of heat capable of increasing the temperature of one pound of water by 1° F. requires for its evolution the expenditure of mechanical energy represented by the fall of 772 pounds through the space of one foot; wrote many scientific articles. He died in Sale, Oct. 11, 1889.

Joule's Law, a law which relates to the work done by an electric current in overcoming the resistance in the circuit.

Jourdan, Comte Jean Baptiste, a French marshal; born in Limoges, France, April 29, 1762. He entered the army at 16, and, after seeing service in North America, rose under the republic to the rank of a General of Division. In September, 1793, he obtained the command of the Army of the North, and after several encounters with the Austrians, in the first of which he was successful, he was beaten by the Archduke Charles at Amberg and Wurzburg; this discomfiture made him resign his command. The First Consul employed him in 1800 in the reorganization and administration of Piedmont; and on the establishment of the empire in 1804 he was made a marshal and a member of the Council of State. In 1806 he was nominated governor of Naples, and afterward accompanied King Joseph Napoleon to Spain as chief of his staff. Louis XVIII. made him a count in 1819. But his republican principles led him to enter heartily into the revolution of 1830. Died in Paris, Nov. 23, 1833.

Journalism, the gathering and distributing of news and opinion by the medium of newspapers. It has come to be one of the most important professions of civilized life. While eloquent and learned disquisitions have been spoken and written on the "power of the press," but few realize its immense influence or comprehend that the business, politics, social science and religion of the world are largely carried on through the newspapers.

The first printed newspaper was called "The Gazette," and was published in Nuremberg in 1457. No copy of this has been preserved. The oldest printed paper existing is the "Neue Zeitung aus Hispanien und Italien" (News from Spain and Italy), 1534, a copy of which is in the Nuremberg library. Thus Germany was first in the establishing of papers as in the introduction of printing.

The growth of newspapers in the United States has surpassed that of any other part of the world. The first American paper was published in Boston, Sept. 25, 1690. It was

called "Publick Occurrences, both Foreign and Domestic," and consisted of three pages, two columns to a page, and one page blank. It was intended to be a monthly, but was suppressed on its first appearance. The Boston "News Letter," generally considered the first American paper, was commenced April 24, 1704, by John Campbell. It was a weekly, printed on a sheet of foolscap, sometimes on a half sheet, and existed 72 years, till the British troops evacuated Boston, 1776. Its circulation was 300. The oldest paper in New York, the "Commercial Advertiser," was founded by Noah Webster in 1793 under the name of the "Minerva." The first Western paper, called the "Sentinel of the Northwestern Territory," was founded by William Maxwell, in Cincinnati, 1793. The first successful commercial paper was the "New Orleans Prices Current," 1822. Since then all amusements, sciences, vocations and industries have had their own organs. None of the old style papers had a subscription list of over 5,000 and the prices were very high. The first cheap paper was started in 1832 by Horace Greeley, in connection with Horatio Shepard, but it did not prove a success. It was, however, speedily followed by others on the same line, such as the Baltimore "Sun," the New York "Herald" and the "Tribune," all of which reached a circulation of from 10,000 to 15,000. Of the leading New York newspapers the "Herald" was established in 1835 by James Gordon Bennett, the "Tribune" in 1841 by Horace Greeley, and the "Times" in 1851, by Henry J. Raymond. Most of the daily papers have eight pages, but the weeklies have from 16 to 24 pages, while the Sunday editions in the great cities often number 40 pages. Among the religious papers which have exerted a wide influence for good are the "Christian Herald," "Congregationalist," "Outlook," "Observer," "Christian Advocate," "Churchman," "Interior," "Advance," etc.

In 1837 reporters came into service and the sub-division and classification of editorial work began. In 1847 the Hoe press with its rapid work made a revolution in the press-room, and the following year the telegraph began to play an important part. In 1849 the New York Associated Press was formed. This was a combination of the leading papers of that city to facilitate the gathering of shipping news, and which has since been enlarged in its numbers and scope and has been followed by many similar combinations. In 1859 stereotyping of newspaper forms by the paper-matrix process was introduced and the Bullock circular press came into use. In 1860 trade papers first made their appearance, and the manufacture of paper out of wood-pulp and straw greatly reduced the cost of that heavy item of expense, and increased the circulation by lowering the price of newspapers.

The Civil War, 1861–1865, gave a new impetus to journalism. Correspondents were sent to the front to gain the latest news, and their letters were eagerly read. The papers, especially the weeklies, were profusely illustrated and from these sources more of history has been preserved than could have been done in any other way. In the last few years great progress has been made in journalism as in other things, and while the expense of running a newspaper has increased, the cost to its patrons has been lowered. The best dailies in the country sell for one or two cents, while the immense Sunday editions are but five cents. The American papers excel all others in their general makeup, attractive head lines, fine illustrations, spicy leaders and the variety and interest of their special articles. Women are largely employed on the staffs of all reputable journals, and have proved themselves as capable of filling even the most exacting assignments as men. Sensational, or "yellow," journalism as it is termed, while open to criticism, has its uses in calling attention to many needed reforms and awakening interest in public matters. Too great a license of the press works its own undoing, as has been seen in the downfall of certain editors and their publications. The Spanish-American War of 1898 called out the greatest possible enterprise and most lavish expenditure of money by our great daily papers. Dispatch boats were hired at an expense of from $1,500 a day to $8,000 and $9,000 a month, some papers employing as many as from 5 to

10 craft of various kinds. Some of these followed closely the fleets at Manila and Santiago, and were under fire during the hottest of the battle. Their dispatches sent from the ships and from the battlefields during action were wonderful word-pictures of the most picturesque war ever waged. It cost from 50 to 80 cents a word to send press matter from St. Thomas or Jamaica, and from $1.45 to $1.80 a word for press cables from Hong Kong. A correspondent of a New York paper paid $6,400 in American gold to get his description of the fight with Cervera to his paper. One editor had a weekly salary list, for war correspondents alone, of $1,463, and a single correspondent of another leading journal was paid $10,000 a year.

Joust, a tilting match; a mock combat or conflict of peace between knights in the Middle Ages, as a trial of valor.

Joyce, Robert Dwyer, an Irish poet; born in County Limerick, Ireland, in 1836. In 1866 he came to the United States. He was a versatile writer of ballads, songs, and sketches; and contributed to the "Pilot," etc. He died in Dublin, Oct. 23, 1883.

Juan de Fuca, or **Fuca, Strait of,** the strait between Vancouver Island and the State of Washington on the W. coast of North America.

Juan Fernandez, called also Masa-tierra ("nearer the mainland"), a rocky island in the Pacific Ocean, 420 miles W. of Valparaiso, Chile, to which it belongs. When Spain lost her South American colonies Juan Fernandez fell to Chile, which used it as a penal settlement, 1819–1835. It is usually inhabited by a few Chilean seal and sea-lion hunters; and in 1877 it was leased by the Chilean government to a Swiss, who established a small colony there.

Juarez, Benito, President of Mexico; born of Indian parents in Gueletao, Oaxaca, March 21, 1806. On the overthrow of the Liberal president by the clerical party in 1858 Juarez assumed the executive, but was compelled to retire to Vera Cruz, where his government was recognized by the United States in 1859. In January, 1861, he was able to enter the capital, and in March was elected president for four years. In December of the same year the allied forces of England, France, and Spain occupied Vera Cruz; in April the British and Spanish withdrew, but the French remained, and declared war against Juarez, who retreated gradually to the N. frontier, and remained for nearly a year at El Paso del Norte. He entered Mexico city again in July, 1867. Maximilian having been shot meanwhile by order of court-martial, Juarez was again elected president and was holding his position with unwearied energy when he died in Mexico, July, 18, 1872.

Juba, the name of two kings of Mauritania and Numidia, important kingdoms of Northern Africa, prior to and after the fall of Carthage.

Jubilee, properly the trumpet or horn blown in a certain year, or the sound it made; now used more generally for the year itself. It occurred every 50th year. Seven was a sacred number, and it became yet more so if multiplied by itself (7×7), after which came the jubilee, but no historic description, in the Bible or elsewhere, of a jubilee actually kept in a particular year has descended to our times. Also a Roman Catholic feast first instituted in 1300 by Pope Boniface VIII., who proposed that it should be celebrated at the commencement of each succeeding century. Paul II. reduced the period to a quarter of a century, and since this time there has been no alteration. The term jubilee is also applied to a festival of rejoicing and congratulation, as when Queen Victoria completed her fiftieth year on the British throne.

Juch, Emma Johanna Antonia (Mrs. Francis L. Wellman), an American singer; born in Vienna Austria, July 4, 1863; brought to the United States in infancy; received a normal school education; made her debut as an operatic singer at Her Majesty's Grand Italian Opera, London, in June, 1881; subsequently, organized the Emma Juch Grand English Opera Company which has made successful tours through the United States.

Judæa, a term applied after the return of the Jews from exile to that part of Palestine bounded E. by the Jordan and the Dead Sea, N. by Sa-

naria, W. by the Mediterranean, and S. by Arabian Petræa.

Judaism, one of the most important faiths of the world, which Christians, as well as Jews, consider to have been revealed by God. Ancient Judaism was the precursor of Christianity and the germ from which it sprang; and Christians generally believe that all the ceremonies, sacred personages, etc. of the older economy were types and shadows of the life and sufferings of Jesus Christ.

Judas Iscariot, one of the 12 apostles and betrayer of his Master. For the paltry sum of about $15, he engaged with the Jewish Sanhedrim to guide them to a place where they could seize his Lord by night without danger of a tumult. But when he learned the result, a terrible remorse took possession of him; not succeeding in undoing his fatal work with the priests, he cast down before them the price of blood, crossed the gloomy valley of Hinnom, and hanged himself (Matt. xxvii: 3–10); or fell headlong and burst asunder (Luke xxii.; in Acts i: 18).

Judas, or **Jude,** brother of James, one of the 12 apostles. Matthew and Mark call him Thaddæus surnamed Lebbæus. Nothing is known of his life.

The General Epistle of Jude.—A short epistle thought by many to have been penned by Jude.

Judas' Tree, a genus of trees, a native of the S. of Europe and of the warmer temperate parts of Asia. It has almost orbicular, very obtuse leaves. The flowers, which are rose-colored, appear before the leaves. There is a legend that Judas hanged himself on a tree of this kind. The American Judas' tree is very similar.

Judd, Sylvester, an American novelist, and theologian; born in Westhampton, Mass., July 23, 1813; was graduated at Yale College in 1836; studied theology at Cambridge; and was ordained in 1840. He died in Augusta, Me., Jan. 20, 1853.

Judge, a legal officer. In ordinary language, a civil officer invested with power to hear and determine causes, civil or criminal, and to administer justice in courts held for that purpose; or a person authorized or empowered in any way to decide a dispute or quarrel.

The National and the State systems of judicature in the United States comprise in their list of officers judges of various degrees of dignity and of widely variant functions. In most of the States the most numerous class are the presiding officers of courts of oyer and terminer, hustings courts, criminal courts, courts of correction, etc., the names given similar tribunals in the different commonwealths varying. They have in most instances both criminal and (to a certain extent) civil jurisdiction, but in other cases are restricted entirely to one or the other function. Of a higher dignity than these are the circuit judges, who in some commonwealths have large supervisory and reviewing powers, while the whole system is presided over by the judges of the supreme State courts. The United States judges range in dignity from district to supreme court officials. Judges are intrusted with office in divers ways — some being elected by the people, others by the Legislature; and yet others are appointed by the President or by governors of the States.

Judge Advocate, at stations of the army the officer through whom prosecutions before courts-martial are conducted. There is also a judge-advocate-general for the army at large; in the United States this is the title of the chief of the bureau of military justice at Washington.

Judges, Book of, the 7th book in order of the Old Testament. It was named Judges because at the period to which it refers Israel was ruled by men of that designation. It has always been accepted as canonical. In the New Testament it is referred to in Acts xiii: 20 and Heb. xi: 32.

Judgment, in law, a determination, decision, or sentence of a judge or court in any case, civil or criminal.

Judgment Day, in theology, the day on which God shall judge the world by the instrumentality of Jesus (Acts xvii: 31), meting out rewards and punishments as justice may require (Matt. xxv: 31–46). The fallen angels, as well as men, will be judged (Jude 6; Rom. xiv: 10; II Cor. v: 10). When 1,000 years from the birth of Christ were almost completed, it

was generally believed that the judgment day was at hand, and every means was adopted to conciliate the Church and gain the favor of its Divine Lord.

Judgment Debt, a debt secured to the creditor by court decree. It holds good, as a rule, for twenty years. If, however, a debtor chooses to go into bankruptcy, or is declared bankrupt against his will, the judgment debt has no preference over other debts.

Judiciary, that branch of the government which is concerned with the administration of justice.

National.—Article III. of the Federal Constitution provides for the establishment of United States courts to have jurisdiction both in law and in equity. This jurisdiction is in general distinct from, but is sometimes concurrent with, that of the State courts. The system which Congress adopted at its first session remains unaltered in its essentials to the present time, except for the addition of the Court of Claims in 1855. The judges are nominated by the President and confirmed by the Senate. They retain office during good behavior. The judicial power of the United States is vested in a Supreme Court, Circuit Courts, 61 District Courts, and Courts of Claims. The Supreme Court has original jurisdiction only of "cases affecting ambassadors, other public ministers and consuls, and those in which a State shall be a party"; but cases decided in the other Federal courts, under certain prescribed conditions, can be reviewed by the Supreme Court by virtue of its appellate jurisdiction. The limits of the original jurisdictions of the District and Circuit Courts, and the appellate jurisdiction of the latter over the former, are provided by law. Besides other matters, the Circuit Court has exclusive jurisdiction of patent suits and the District Court of admiralty cases. The Courts of Claims have jurisdiction of claims against the United States. The justices of the Supreme Court, besides their functions as such, are each assigned to one of the circuits, being then known as Circuit Justices. There is also a separate circuit judge for each circuit, and a district judge for each district. Circuit Courts may be held by the circuit justice, by the circuit judg or by the district judge sittin alone, or by any two of these sittin together. The judges of each circui and the justice of the Supreme Cour for the circuit constitute a Circui Court of Appeals. As now consti tuted the Supreme Court consists o a chief-justice and eight associate jus tices. Besides these regular Federa courts, the Senate sits when neces sary as a court of impeachment; th District of Columbia has a Supreme Court over which the Supreme Court o the United States has appellate juris diction and territorial courts are pro vided over which the Supreme Cour has also appellate jurisdiction. Case decided in the highest court of an State may also be reviewed by th United States Supreme Court, bu only when Federal questions are in volved.

State.— The judicial systems of th several States are too widely differen to permit of explanation. In some o them courts of equity are distinct fron those of law, while in others the sam tribunals exercise both functions, an in still others all distinction betwee actions at law and suits in equity i abolished. The manner of selectin judges also varies in different States At the period of the formation of th United States the election of judges b the people was unknown, except i Georgia. At the present time, however the people elect judges in 24 of th States. Judicial terms vary from tw years to age of retirement.

Judith, the 4th of the aprocrypha books. The narrative opens with th "twelfth year in the reign of Na buchodonosor, who reigned in Nineveh the great city." That potentate, find ing his armies thwarted in their prog ress to the W. resolved to take signa vengeance. His chief opponents wer the Israelites, who fortified themselve in Bethulia. While Holofernes, hi general, was besieging this stronghold the heroine of the book, Judith, th beautiful widow of Manasses, wen forth to the Assyrians, pretending tha she had deserted her people. She fas cinated Holofernes, who after a tim took her to his tent, where, as he wa lying drunk, she cut off his head, es caping back with it to the fort at Be thulia. On the loss of their leader th

Assyrians fled, the Israelites pursuing and inflicting on them great slaughter.

Judson, Adoniram, an American missionary; born in Malden, Mass., Aug. 9, 1788; was graduated at Brown University in 1807 and studied theology at the Andover Theological Seminary. In April, 1810, he made application to the London Missionary Society to go to "India, Tartary, or any part of the Eastern continent." The offer of his services was favorably received and in February, 1812, he sailed with his wife for Asia. During the voyage he was converted from the Congregational faith to that of the Baptist Church. In 1814, when the Baptists of the United States organized a missionary union he was taken under its care. He settled in Burma; mastered the language; and labored there for nearly 40 years. He died at sea, April 12, 1850.

Judson, Edward, an American clergyman; born in Moulmein, Burma, Dec. 27, 1844; son of Adoniram Judson; came to the United States in 1850; was graduated at Brown University in 1865. He accepted the charge of the Berean Baptist Church of New York city, where he later built the Judson Memorial Church, becoming its pastor.

Judson, Emily Chubbuck (Fanny Forrester), an American missionary and writer; born in Eaton, Madison co., N. Y., Aug. 22, 1817. She married Adoniram Judson in 1846. She died in Hamilton, N. Y., June 1, 1854.

Judson, Harry Pratt, an American educator; born in Jamestown, N. Y., Dec. 20, 1849; became head Professor of Political Science in the University of Chicago in 1892.

Juggernaut, in Hindu mythology, one of the 1,000 names of Vishnu, the second god of the Hindu triad. Juggernaut is Vishnu, especially in his 8th incarnation, Krishna. The great seat of his worship is at Puri, in Orissa, where he is associated with his brother and their sister. The idols are wooden busts about 6 feet high. Balaram is painted white, Juggernaut black, and Subhadra yellow. Juggernaut's car is 43½ feet high. It has 16 wheels, each 6½ feet in diameter. There are 13 festivals each year. The chief is the Rath Jattra, or Car Festival, at which the three idols are brought forth, being dragged out in their cars by the multitudes of devotees. Formerly a few fanatics threw themselves beneath the wheels; this is not now permitted.

Jugurtha, King of Numidia, son of Mastanabal, who was a natural son of Masinissa. By murder and trickery he obtained the throne, but was finally delivered up to the Romans, and was carried in the triumph of Marius, Jan. 1, 104 B. C., and then flung into a dungeon to die of hunger.

Jujuy, the extreme N. province of the Argentine Republic; a mountainous tract, bounded on the W. and N. by Bolivia; area, 18,977 square miles; pop. (1900) 54,405. Capital, Jujuy, on the San Francisco river.

Julian, or **Julianus, Flavius Claudius,** surnamed The Apostate, Roman emperor; born in Constantinople, probably Nov. 17, 331 A. D. He was the youngest son of Constantine the Great, and was educated in the tenets of Christianity, but apostatized to paganism. In 354 he was declared Cæsar, and sent to Gaul, where he obtained several victories over the Germans; and, in 361, the troops in Gaul revolted from Constantius and declared for Julian. He took from the Christian churches their riches, which were often very great, and divided them among his soldiers. He sought likewise to induce the Christians, by flattery or by favor, to embrace paganism. His malice was further evinced by extraordinary indulgence to the Jews, and an attempt to rebuild the temple at Jerusalem, that the prophecy of Christ might be falsified; but the design was frustrated. He did not long survive his disappointment, being killed in 363 in his expedition against the Persians.

Julian Epoch, the epoch or commencement of the Julian calendar. The first Julian year began with Jan. 1, 46 B. C., and the 768th from the year assigned to the foundation of Rome.

Jullien, Louis Antoine, a French composer and director; born in Sisteron, Basses Alpes, France, April 23, 1812. He studied at Paris, and became a conductor of concerts there; leaving there he made London his headquarters, and did much to pop-

ularize music in England by means of large bands. He visited the United States in 1852–1854; returned to Paris, where he was imprisoned for debt, and died in a lunatic asylum near Paris, March 14, 1860.

July, the name of the 7th month of the year. It formed the 5th month of the old Roman year, and was called Quintilis by the Romans; but shortly after the calendar had been rearranged by Julius Cæsar, the name Julius was given to this month by Mark Antony, in honor of Cæsar, whose birthday fell on it.

Jumping Deer, a kind of deer found W. of the Mississippi; called also the black-tailed deer.

Jumping Hare, a species of jerboa found in Southern Africa, and so named from its general resemblance to a hare, while its jumping mode of progression, necessitated by the elongated nature of the hind legs, has procured for it its name.

Jumping Mouse, found in Labrador and North America generally, but especially an inhabitant of the fur territories.

June, the 6th month of the year in our calendar, but the 4th among the Romans. It consisted originally of 26 days, to which four were added by Romulus, one taken away by Numa, and the month again lengthened to 30 by Julius Cæsar, since whose time no variation has taken place.

Juneau, a town and shipping port in Alaska; on a promontory between Linn Channel and the Taku river, opposite Douglas Island, and about 55 miles N. E. of Sitka.

June Berry, a North American wild tree common in the United States, and allied to the medlar. The fruit is pear-shaped, about the size of a large pea, purplish in color, and a good article of food.

Jungaria, Dzungaria, or **Sungaria,** a country of Central Asia, forming part of the Chinese empire; area 147,950 square miles; pop. 600,000. It is an elevated and almost desert plateau between the Altai and Thian-Shan Mountains, and is intersected by subordinate ranges. Between the mountains are several fertile valleys watered by numerous lakes and cultivated by nomadic tribes. The country was originally inhabited by the Oo-Sun, distinguished from neighboring nations by their blue eyes and red beards. They were expelled by the Turks in the 6th century and became subject to the Mongols. In 1754 the country was conquered by China, and has since been administered as a province of that empire, though a portion is claimed also by Russia.

Jungfrau ("The Maiden"), a magnificent peak of the Bernese Alps; height 13,671 feet.

Jungle, a term adopted into the English literature from Bengal (Sanskrit Jangala, "desert") and employed to designate those thickets of trees, shrubs, and reeds which abound in many parts of India. They are generally almost impenetrable.

Jungle Cat, a wild cat, found in India and Africa.

Jungle Fever, remittent fever, which is apt to attack Europeans and others who pass through East Indian jungles during the rainy season; called also hill fever.

Jungle Fowl, the name given in India to the wild species which is the parent of our domestic fowl, and to three other closely allied species.

Juniata River, a stream in Pennsylvania, formed near the center of the State by the junction of the Little Juniata and Frankstown branch, flowing in a generally E. course and emptying into the Susquehanna 14 miles above Harrisburg. It is about 150 miles long, and though not navigable is noted for its picturesque scenery. Beside it are the Pennsylvania canal and railroad, the latter crossing the stream many times.

Juniperus, a genus of plants. The common juniper is a bushy shrub with evergreen sharp-pointed leaves. It grows in fertile or in barren soils, on hills or in valleys, on open sandy plains, or in moist and close woods. All parts of the plant, when bruised, exhale a more or less agreeable odor. The fruits and young tops are used in medicine. The fruits or berries are used to flavor gin. Juniper wood has a reddish color, and is used occasionally for veneers.

Junk, a vessel employed by the Chinese, Japanese, and Malays in navigating their seas.

Junker, Wilhelm, a German traveler; born of German parents in Moscow, Russia, April 6, 1840. He made a series of explorations among the W. tributaries of the Upper Nile; died in St. Petersburg, Russia, Feb. 13, 1892.

Junketing, any trip, excursion, or entertainment participated in by an official at public expense under the guise of public service; popularly called a "junket." The investigating tours of Congressional and Legislative Committees, which involve large railroad and hotel bills, are frequently given this name.

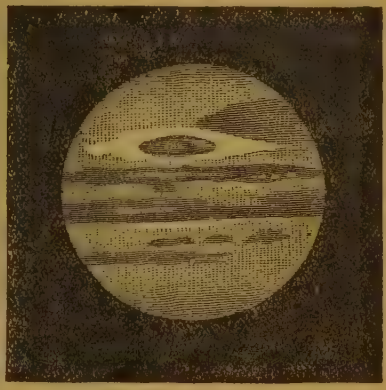
Juno, in Roman mythology, a celebrated deity, identified with the Hera of the Greeks, and generally regarded as the daughter of Saturn and Rhea, and sister and wife of Jupiter.

Junta, in Spain, a high council of state; originally applied to an irregularly summoned assembly of the states, as distinguished from the Cortes or Parliament regularly called together. When the Spanish-American colonies fought for independence they called their governing bodies "juntas." In Cuba the term was adopted by the insurgents to designate the general legation of the Cuban republic abroad, and was first appointed Sept. 19, 1895, by the Constituent Assembly that formed the insurgent Cuban government.

Jupati Palm, a fine Brazilian palm. The leaf-stalks, which are 12 to 15 feet long, are used for building houses and making baskets.

Jupiter, in Roman mythology, the supreme Roman deity, identified with the Greek Zeus.

In astronomy, the largest planet of the solar system. Its diameter at the equator is nearly 90,000 miles, and the distance from pole to pole is over 84,000 miles. Its bulk is 1,300 times that of the earth, but its density is only one-fourth that of the earth. The average distance of Jupiter from the sun is 483,000,000 miles; and a railway train traveling 50 miles an hour, would require nine centuries to go from the sun to Jupiter. The latter body revolves on its axis in about 9 hours and 55 minutes. Though traveling in its orbit round the sun at the rate of 28,743 miles an hour, it takes nearly 12 years to complete its revolution. It is surrounded by four conspicuous belts of a brownish-gray color, two N., two S. of the equator, with feebler ones toward the poles.



THE PLANET JUPITER.

Jupiter has five satellites, four of which were discovered Jan. 6, 1610, by Galileo, and the other Sept. 9, 1892, by Prof. Edward E. Barnard.

Jura, a department in the E. of France, bordering on Switzerland; area 1,928 square miles; pop. 266,143. A large part is covered by the Jura Mountains, in which some rivers of considerable size sink into the ground and reappear after some distance. Fine pine forests are a characteristic feature of the scenery.

Jurisdiction, in ordinary language and law: (1) The legal power, right, or authority of administering justice; the legal power which a court of equity has of deciding cases brought and tried before it; the legal right by which judges exercise their authority; judicial authority over a cause. (2) The power or right of governing or legislating; the power or right of exercising authority, or of making and enforcing laws. (3) The extent to which such authority extends; the district within which such power may be exercised. Appellate jurisdiction, jurisdiction in cases of appeal from inferior courts. Original jurisdiction, the legal

right of hearing and determining a case in the first instance.

Jury, a number of men selected according to law, impaneled, and sworn to inquire into and to decide on facts, and to give their true verdict according to the evidence legally laid before them. In courts of justice there are three kinds of juries, grand juries, special juries, and petit or common juries. Petit or common juries and special juries consist of 12 men each, and the verdicts given must be unanimous. They are appointed both in civil and criminal cases. A special jury is resorted to in cases of too great importance to be decided by a petit jury. The establishment of proper jury trials seems to have been under Henry II., late in the 12th century. It was well rooted in the time of King John, and is insisted on in Magna Charta as the great bulwark of liberty. It has prevailed in North America from colonial times, and is incorporated in the Constitution of the United States, and the fundamental laws of the several States.

Jury Mast, a temporary mast erected in place of one that has been carried away.

Just, St., Louis Antoine de, a French author and revolutionist; born near Nevers, France, Aug. 25, 1767. He became associated with Robespierre and shared in the hideous and indiscriminate bloodshed which marked the decrees of the Convention in the latter part of 1793, and beginning of 1794. After the dawn of a reaction in popular feeling, and the final absorption of power by the moderate Republican party, St. Just was seized, with his colleague Robespierre and guillotined, July 27, 1794.

Justice, Department of, an executive branch of the United States government. At its head is the attorney-general, whose office goes back, historically, to the foundation of the government, though the Department of Justice dates only from 1870. The attorney-general is appointed by the President and must be confirmed by the Senate. He is a member of the cabinet and his salary is $8,000 a year. The establishment of this department brought under his control all United States district attorneys and marshals, and secured uniformity in the trial and prosecution of cases.

Justice, High Court of, one of the two great sections of the English supreme courts.

Justice, Lord Chief, the title given to the chief judge of the King's Bench Division of the High Court of Justice; formerly given also to the chief judge of the Common Pleas. He of the King's Bench is Lord Chief-justice of England.

Justice of the Peace, a public officer invested with judicial powers for the purpose of preventing breaches of the peace, and bringing to punishment those who have violated the law. These officers, under the Constitution of the United States, and some of the States, are appointed by the executive; in others they are elected by the people and commissioned by the executive. In some States they hold their office during good behavior; in others, for a limited period. In some of the United States, justices of the peace have jurisdiction in civil cases given to them by local regulations.

Justifiable Homicide, in law, homicide in circumstances which render it a justifiable act. When no other way of preventing an atrocious crime, say murder, is available, the deed ceases to be murder and becomes justifiable homicide.

Justinian I. (Flavius Anicius Justinianus), a Byzantine emperor; born in Tauresium, Dardania, Illyricum, probably May 11, 483. He succeeded his uncle Justin I. in 527. He had married Theodora, a well-known actress, who was created Augusta, and crowned the same day as her husband. The glory of his reign is the famous Justinian Code. He died Nov. 14, 565.

Justinian Code, a famous digest of the Roman law, compiled from the Gregorian, Theodorian, and Hermogenian codes, at the command of the Emperor Justinian I., by 10 of the ablest lawyers of his reign, under the guidance of the jurisconsult Tribonian. Their labors consisted (1) of the "Statute Law," or Justinian Code, properly so called; (2) the "Pandects," a digest of the decisions and opinions of former magistrates and lawyers; (3) the "Institutes," an

abridgment in four books, containing the substance of all the laws in an elementary form; (4) the laws of modern date, including Justinian's own edicts, collected into one volume, and called the "New Code."

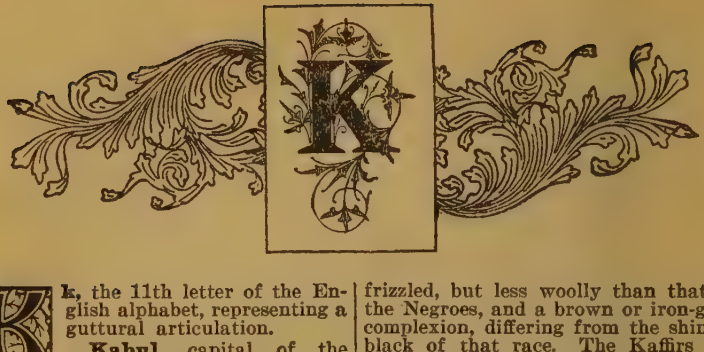
Jute, a textile fabric obtained from a plant belonging to the natural order Tiliaceæ (lime or linden). The jute plant is a native of the warmer parts of India, where its cultivation is carried on, especially in Bengal, on an extensive scale. It is an annual plant, growing to a height of 12 or 14 feet. The fiber forms the inner bark of the plant, and possesses in an eminent degree the tenacity common to the bark of the plants of this order, and in the United States and Great Britain serves many useful purposes, being mixed with hemp for cordage, and with silk in the manufacture of cheap satins; its principal use is in the manufacture of coarse cloth for bagging, and in making the foundation of inferior carpets, mats, etc.

Jutiapa, a department of Guatemala, bounded on the N. by Jalapa and Chiquimula, on the S. by the Pacific Ocean; on the S. E. by Salvador, on the W. by Santa Rosa; area 1,563 square miles; pop. 48,461. Capital, Jutiapa.

Jutland, a division of Denmark, formerly comprising the whole continental portion of the Danish dominion, but now restricted to the part of the peninsula belonging to Denmark to the N. of Schleswig, being about 170 miles in length, and from 60 to 80 in breadth; area, 9,743 square miles; pop. (1901) 1,063,792.

Juvenal (Decius Junius Juvenalis), a Roman poet and satirist; born probably in Aquinum, Campania, about the beginning of the reign of Claudius.

Jyar, the 8th month of the Jewish year, corresponding, at the earliest, with our April; but it may be as late as May; it has only 29 days.



K, the 11th letter of the English alphabet, representing a guttural articulation.

Kabul, capital of the kingdom of Afghanistan; 165 miles from the Indian station and fort of Peshawur, 600 from Herat, and 290 from Kandahar; on the Kabul river, at an elevation of 6,400 feet above sea-level. It carries on a considerable trade with Hindustan through the Khyber Pass. Pop. 75,000.

Kabul River, a stream rising in Afghanistan at the height of about 8,400 feet, flowing E., passing through the Khyber Pass into India, and falling into the Indus at Attock. Length, 300 miles.

Kadesh, Kadesh-Barnea, or **Enmishpat,** the name of a fountain, city, and the desert around in the S. border of the Promised Land. It was probably situated beyond the great valley El-Arabah, S. of the Dead Sea. Kadesh was twice visited by the Israelites in their wanderings — once soon after they left Mount Sinai, and again 38 years after.

Kadiak, an island off the S. coast of Alaska, separated from the mainland by Alaska Strait; area, 3,465 square miles; pop. about 1,500.

Kadijah, the first wife of Mohammed, who, at the period of her marriage with the prophet, was the widow of two husbands and 40 years of age, Mohammed being only 25. She had four sons and four daughters by Mohammed, among the last the beautiful Fatima. She died in 628.

Kaffirs, a native race of Southern Africa, belonging to the great Bantu family, of negroid character, but distinguished from the Negroes by a larger facial angle, a high nose, hair frizzled, but less woolly than that of the Negroes, and a brown or iron-gray complexion, differing from the shining black of that race. The Kaffirs are a tall, handsome, vigorous race, of simple habits, their principal food being milk in the form of curd. Their dress used to be entirely made of skins, but latterly they have begun to substitute various European articles. Their dwellings are low, circular cabins, grouped in kraals, or villages, and are constructed by the women. Plurality of wives is general. Cattle are of the first importance. The ground is cultivated by the women. At the age of 12 the boys are appointed to the care of cattle, and exercised publicly in the use of the javelin and the club. The girls, under the inspection of the chiefs' wives, are taught to perform the work of the hut and the garden. Their weapons are the assagai or spear, the shield, and the club. Each horde or tribe has a hereditary and absolute chief. Various Christian missions have met with considerable success among them. The continued encroachments of the British have repeatedly led them to engage in open hostilities, and they have proved formidable opponents to both the Dutch and British. From 1846 to 1853 there were almost constant hostilities. Peace was maintained with all the tribes from 1853 to 1879, when a war with the Zulus N. of Natal broke out in which the British though ultimately successful, sustained a severe disaster.

Kaffraria, a name adopted by the Portuguese from the Arabs, who call all the African continent S. from Sofala, the land of kafirs (infidels). The district for some time called British Kaffraria was formerly part of the territory of the Amaxosa and Ama

tembra Kaffirs. In 1860 it was erected into a separate colony, and in 1865 was incorporated with Cape Colony, and the name has fallen out of use.

Kafiristan, Kaffiristan, or **Caffristan,** a country of Central Asia; area, about 215,400 square miles; pop. est. about 200,000. It forms a part of Afghanistan, though the tribes are generally independent.

Kai-fung, capital of the Chinese province of Honan, near the S. bank of the Hoangho, where the great inundation occurred in 1887, long the chief settlement of the Jews in China.

Kail, or **Kale,** differs from the cabbage in the open heads of its leaves, which are used as "greens" and as food for cattle.

Kai-ping, the coal region in Chihli, China; 75 miles N. E. of Tien-tsin, near the Lan-ho river.

Kairwan, a walled town of Tunis, in an open, marshy plain, 80 miles S. of the capital. It contains the mosque of Okba, who founded Kairwan about 670, which is one of the most sacred of Islam. Outside the city, to the N. W., is the mosque of the Companion (the Prophet); this and other sacred tombs have rendered Kairwan the Mecca or sacred city of Northern Africa. As such it is jealously guarded from defilement by the presence of Jews and Christian travelers.

Kaiser. The Emperor of Germany was called Kaiser because certain provinces near the Danube, which came into possession of the German empire in 1438, were anciently assigned to a Cæsar. This ancient title was revived when, in 1871, King William III. of Prussia was proclaimed German emperor.

Kaiser Wilhelm's Land, the N. section of Southeastern New Guinea; declared a German protectorate in 1884; area, estimated 70,000 square miles; pop. about 110,000.

Kajak, the boat of the Eskimos, used by the men only; about 18 feet in length, it is 18 inches broad in the middle, and, tapering at both ends, is about a foot deep, it is covered with skins and closed at the top; with the exception of a hole in the middle, filled by the boatman, who, sitting on the floor of the boat, propels it with a paddle.

Kakabikka, a remarkable cataract of British North America, in the Kamanatekwoya river, just before it enters Lake Superior. It has a fall of 130 feet.

Kakapao, or **Kakapo,** a bird of the parrot family though it is in many respects of a unique type. It is indigenous to New Zealand. Its habits are wholly nocturnal, hiding by day, seeking food only by night. It is fast becoming extinct.

Kalafat, a town in Rumania, on the bank of the Danube. During the Russo-Turkish War of 1853–1854 it was twice unsuccessfully attacked by the Russians.

Kalahari, or **Kalihari,** a desert region in Central South Africa, N. of the Orange river; a large tract of which is included in the British protectorate of Bechuanaland. It is very flat, subject to long-continued droughts, and has only dried-up river beds; nevertheless it is not devoid of vegetation. An abundant supply of watermelons and some remarkable varieties of tubers, together with large herds of antelopes and other game provide ample subsistence to the natives.

Kalakaua I., David, King of Hawaii; born Nov. 16, 1836. He was elected Feb. 12, 1874, to succeed Lunalilo, and reigned till his death. In 1887 he was compelled to grant a new constitution which restricted to a considerable extent the royal authority. He died in San Francisco, Cal., Jan. 30, 1891.

Kalamazoo College, a coeducational institution in Kalamazoo, Mich., founded in 1855 under the auspices of the Baptist Church.

Kalapooian, a division of the North American Indians, embracing numerous tribes who formerly occupied the valleys of the Willamette river in Oregon, their numbers have been greatly reduced and the remnant, less than 200, are now located on Grande Ronde reservation, Ore.

Kalb, Charlotte von, a German memoir writer; born in Waltershausen, Grabfeld, July 25, 1761. She wrote a "History of the American War of Independence." She died in Berlin, May 12, 1843.

Kalee, or **Kali,** in Hindu mythology, the secti or consort of Siva in the

form of Kala. She is represented with four arms, one holding a sword, the second a trident, the third a club, and the fourth a shield. A dead body hangs from each of her ears; human skulls strung together form her necklace; and the hands of slaughtered giants interlaced with each other compose her girdle. Her eyebrows are matted and stained with the gore of monsters whom she has just torn to pieces and devoured. She is exceedingly pleased when her altars are inundated with human blood. The thugs selected her as their tutelary deity.

Kaleidoscope, an instrument which, by means of reflection, enables us to behold an endless variety of beautiful forms of perfect symmetry.

Kaler, James Otis, pseudonym James Otis, an American journalist; born in Winterport, Me., March 19, 1848. He has published tales for the young.

Kalevipoeg ("The Son of Kalev"), the national poem of the Esthonians, consisting of 20 cantos of popular songs collected into a continuous epic by Kreutzwald.

Kalgan, a Chinese town, 110 miles N. W. of Peking, built opposite the passage through the Great Wall; one of the chief emporiums of the Chinese tea trade with Mongolia and Siberia, about 21,500,000 pounds being exported from here annually.

Kalinjar, a hill-fortress and hill-shrine in the Northwestern Provinces of India; on an isolated rock overlooking the plains of Bundelkhand. The records of the place go back to a period of great antiquity, the name Kalinjar occurring in the "Mahabharata" as that of a city even at that time famous. The whole rock is thickly studded with ruins of ancient Hindu edifices and other works, the most celebrated of all being the remains of the superb temple of Nil Kantha Mahadeo.

Kalki, in Hindu mythology, the 10th avatar (incarnation) of Vishnu. Nine are believed to be past; this one is future, and many Hindus look forward to it as Christians do to the Second Advent of our Lord. When Vishnu descends on earth in the form of Kalki, he will destroy all the Mlecchas (barbarians), and the wicked generally, and establish a reign of right eousness on earth.

Kalmucks, a Mongolian race o people, scattered throughout Centra Asia, and extending W. into Souther Russia. The name is not employed b the people themselves. Long ago part of this people is said to hav made an expedition to the W. as far a Asia Minor, and to have lost them selves there among the Caucasus moun tains; while the rest, who had re mained in Great Tartary, receive from their Tartar neighbors the nam of Khalimik (the separated). The are a nomadic, predatory, and warlik race, and though hospitable, are muc given to deceit and thieving. In re ligion they are nearly all adherents o Lamaism. Their language differs fro true Mongolian only in being mor phonetic. From 1670 to 1724 th Kalmucks figured as an important fac tor in Russian politics, sometimes a enemies, sometimes as allies. In 177 a large body of them being dissatisfie with the treatment they received at th hands of Russia, returned to Chin There still remain about 110,000 Ka mucks in European Russia; in Asiati Russia there are probably 55,00 more. The number within the Chines empire it not known.

Kamakura, a seacoast village c Japan, 12 miles E. of Yokohama; fo merly a noted city, founded befor 1199, and the seat of the early sh guns.

Kambalu, Kambaluc, or Cam baluc, the capital of China and th residence of the Mongol emperor 1234–1368. It partially corresponde with the part now called the "Tarta City" in Peking, was visited b Marco Polo, etc., in the 13th centur

Kamchatka, a peninsula of Eas ern Siberia, stretching S. into the P cific between Bering Sea on the E and the Sea of Okhotsk on the W area, 465,590 square miles; pop. 6,50 The peninsula is long and narrow swelling out toward the middle, an terminating in a point only seve miles distant from the northernmo of the Kurile Islands. A chain of vo canic mountains runs down the cente The coast on the S. E. is formed rugged, precipitous cliffs. Grass an tree vegetation are luxuriant. T principal occupations of the inhal

ants are fishing and hunting. Kamchatka was annexed to Russia at the end of the 17th century. The Kamchadales — the preponderating race (2,000 in number) — live mostly in the S. They are a hardy people, who dwell in winter in earth pits and in summer in light huts. The fort of Petropaulovsk (pop. 350), with a magnificent harbor that is covered with ice only during a brief period of the year, is situated on the E. coast.

Kamehameha I., surnamed The Great; King of the Sandwich Islands; born in 1753. He subdued and governed the whole group of the Sandwich Islands, having been first made King of Hawaii in 1781. He died in Kailua, Hawaii, May 8, 1819.

Kamehameha II., King of the Sandwich Islands (1819–1824), son of Kamehameha I.; born in Hawaii in 1797. He permitted the establishment of an American Protestant mission in 1820. He died in London, July 14, 1824.

Kamehameha III., King of the Sandwich Islands (1824–1854), brother of Kamehameha II.; born March 7, 1814. He introduced a constitutional form of government in 1840. Died in Honolulu, Dec. 15, 1854.

Kamehameha IV., King of the Sandwich Islands, nephew of Kamehameha III.; born Feb. 9, 1834. He succeeded his uncle in 1854, and died in Honolulu, Nov. 30, 1863.

Kamehameha V., King of the Sandwich Islands, brother of Kamehameha IV.; born Dec. 11, 1830. He succeeded his brother in 1863, and proclaimed a new constitution in 1864. He died in Honolulu, Dec. 11, 1872.

SUMMER AND WINTER HUTS OF KAMCHATKA NATIVES.

Kamerun, (1) a district on the W. coast of Africa, on the Bight of Biafra, now belonging to Germany. (2) A river in the Kamerun territory. It falls into a broad estuary, on approaching which it has a width of about 400 yards. (3) A mountain range in the territory, the highest peak

of which has been estimated at over 13,000 feet.

Kami, in Japanese mythology, the name of certain spirits or divinities, the belief in which seems to have characterized the ancient religion of that country before it became intermingled with foreign doctrines, and still constitutes its basis. The kami are believed to be partly elemental, subordinate to the deities of the sun and moon, and partly the spirits of men. The spirits of human beings survive the body, and, according to the actions of the individual in life, receive reward or punishment. When a man's life has been distinguished for its piety or for the good he has done to his fellow-men, after death he is deified, and his kami is worshiped.

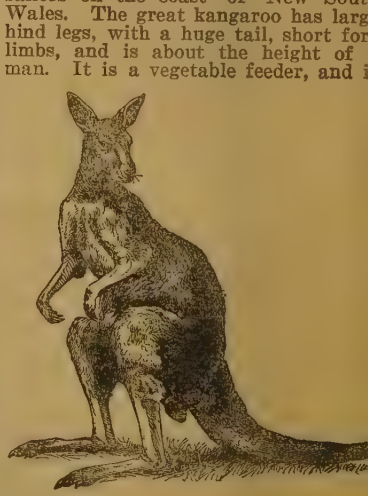
Kanagawa, a seaport of Japan, on the W. shore of Tokyo Bay, the first Japanese port opened to foreign trade in 1859.

Kanakas, the native inhabitants of the Sandwich Islands.

Kandahar, or **Candahar,** the capital of Central or Southern Afghanistan; about 200 miles S. W. of Kabul; 3,484 feet above sea-level. It has been a pivot for the history of that part of Asia during more than 2,000 years. It is supposed to have been founded by Alexander the Great. In the war of 1878–1880 the British entered Kandahar unopposed, and they held the city till 1881, some months after they had evacuated the rest of Afghanistan. Pop. variously estimated at from 25,000 to 100,000.

Kane, Elisha Kent, an American explorer; born in Philadelphia, Pa., Feb. 3, 1820; was graduated at the Medical Department of the University of Pennsylvania in 1842; joined the United States navy as assistant surgeon in 1843; accompanied the Grinnell expedition in search of Sir John Franklin in 1850–1852. His fame as an Arctic explorer rests on his second expedition in search of Franklin in 1853–1855. He sailed from New York on May 30, in the former year, in the brig "Advance," and reached lat. 78° 43′ N., the highest point ever attained up to that time by a sailing vessel. The hardships endured during this second trip so affected his health that he died in Havana, Cuba, where he had gone to recuperate, Feb. 1[0] 1857.

Kangaroo, an animal of Aus tralia, first observed by a party o sailors on the coast of New Sout Wales. The great kangaroo has larg hind legs, with a huge tail, short for limbs, and is about the height of man. It is a vegetable feeder, and i



KANGAROO.

destructive to the crops of the settler in the less inhabited parts of Aus tralia; in the long-settled districts i is much rarer. Its ordinary metho of progression is by a series of grea leaps, 10 to 15 feet or more. Man species are known to exist.

Kangaroo Grass, the most es teemed fodder grass of Australia. I affords abundant herbage, and is muc relished by cattle.

Kano, capital of a province of th same name (called the "Garden o Central Africa"; pop. est. 500,000) in the Negro State of Sokoto, Centra Africa; in the middle of the country The wall surrounding Kano is 1[5] miles in circuit. Pop. about 30,000

Kansas, a State in the North Central Division of the North Ameri can Union; bounded by Nebraska Missouri, Indian Territory, Oklahoma and Colorado; area, 81,700 square miles; admitted to the Union Jan. 29 1861; number of counties, 105; pop (1900) 1,470,496; capital, Topeka.

The State has a generally flat or undulating surface. Its altitude above the sea ranges from 750 feet at the mouth of the Kansas river to 4,000 feet on the W. line of the State. The rivers flow through bottom-lands, varying from ¼ to 6 miles in width, and bounded by bluffs rising from 50 to 300 feet. The Missouri river forms nearly 75 miles of the State's N. E. boundary. The Kansas river, formed by the junction of the Smoky Hill and Republican rivers, joins the Missouri at Kansas City, after a course of 150 miles across the State. The Arkansas, rising in Colorado, flows with a tortuous course, for nearly 500 miles, across three-fourths of the State. It forms, with its tributaries, the Little Arkansas, Walnut, Cow Creek, Cimarron, Verdigris, and Neosho, the S. drainage system of the State. Other important rivers are the Saline and Solomon, tributaries of the Smoky Hill; the Big Blue, Delaware, and Wakarusa, flowing into the Kansas; and the Osage, a tributary of the Missouri.

The minerals of Kansas are lead and zinc, obtainable from the sub-Carboniferous; bituminous coal, petroleum and gas, from the Carboniferous; salt and gypsum from the Permian and Triassic; chalk and lignite from the Cretaceous; lignite and silica in an exceedingly fine state from the Tertiary. The State ranks fourth in the United States in the production of salt, and ninth in coal.

The soil is exceptionally rich in those mineral substances necessary to support vegetation, and is consequently very fertile. In the E. it consists of a black sandy loam with a vegetable mold, and in the W. it is of a lighter color but greater depth. The bottom-lands have a soil from 2 to 10 feet in depth, and the hills, from 1 to 3 feet. Only a small portion of the State is wooded. The excellent soil of Kansas makes it one of the foremost agricultural States. In 1900 the principal farm crops were corn, wheat, hay, oats, potatoes, barley, and rye. About 100,000 pounds of cotton are produced annually. About 35,000,000 acres of prairie lands are devoted to grazing purposes.

In 1900 the school population was 508,854, the enrollment in the public schools, 389,582, and an average daily attendance of 261,783. There were 9,256 public school buildings; 11,297 teachers, public school property valued at $10,417,392.00; receipts of the year, $5,277,702.11; and expenditures, $4,622,363.76. The State institutions of learning were the State University at Lawrence, State Normal School at Emporia, State Agricultural College at Manhattan. For higher education there were 181 public high schools, 15 private secondary schools, 5 private normal schools, 4 business colleges, 2 schools of oratory, and 22 colleges and universities for both sexes; the Oswego College for Young Ladies at Oswego, and the College of the Sisters of Bethany at Topeka.

The strongest denominations in the State are the Methodist Episcopal; Roman Catholic; Regular Baptist, North; Disciples of Christ; Presbyterian, North; United Brethren; Congregational; Friends; and Lutheran, General Council. In 1889 there were 4,601 Evangelical Sunday-schools with 43,073 officers and teachers and 282,379 scholars.

The assessed valuation of all taxable property in the State in 1900 was $340,611,098, and the tax rate $5.50 per $1,000. The total bonded debt, limited by law to $1,000,000, was on March 10, 1901, $667,000, all of which was held by State bonds.

The governor is elected for a term of two years, and receives a salary of $3,000 per annum and his residence. Legislative sessions are held biennially and are limited to 50 days each. The Legislature has 40 members in the Senate, and 125 members in the House, each of whom receives $3 per day and mileage. There were 7 representatives in Congress.

Kansas was included in the Louisiana Purchase of 1803, and is believed to have been visited by an army of Spaniards and Indians in 1541. It was explored by the French in 1724, and by Lieut. Zebulon M. Pike, of the United States army, in 1806. It was made a Territory in 1854, and disputes between the slavery and abolition parties made Kansas a scene of bitter partisan conflict. The repeal of the Missouri Compromise of 1820 opened a new field for the extension of slavery, of which the slaveholders of Missouri and the South hastened to avail themselves, while the anti-slavery party of the North made equally vigor-

ous efforts to people the new Territory. The result was a series of conflicts which continued for four years, in which John Brown, who later died for the cause, was a devoted leader. In the end the party opposing slavery triumphed; a constitution excluding slavery was adopted, and Kansas was admitted as a State, Jan. 29, 1861.

Kansas City, a city and county-seat of Wyandotte co., Kan.; at the junction of the Missouri and Kansas rivers, opposite Kansas City, Mo., with which it has many business interests in common, especially the meat-packing industry. The two cities constitute the second largest live-stock and meat-packing place in the United States. Pop. (1900) 51,418.

Kansas City, a city in Jackson co., Mo.; opposite Kansas City, Kan. It is the farming trade and wholesale center of the Missouri valley; comprising a population of 10,000,000, and having an annual trade of $500,000,000, and more than 30 of the most important railroads in the country either pass through the city or have a terminus here. The various industries of the city represent a capital investment of more than $75,000,000, and an annual product of $150,000,000. Trolley lines connect with Kansas City, Argentine, Armourdale, and Rosedale, in Kansas, places that commercially form a part of the twin cities. The city has 125 churches, several pleasure spots, a waterworks system that cost over $3,000,000, and more than 25 charitable institutions. The first bridge across the Missouri river, erected here, cost over $1,000,000, and the New Winner bridge, one of the handsomest structures of the kind in the country, cost over $1,500,000. In 1900 the total assessed property valuation was $79,410,000. Pop. (1900) 163,725.

Kansas River, a large river, formed by the union of the Smoky Hill Fork and Solomon river, 10 miles W. of Abilene, and so called from the tribe of Indians which once dwelt on its shores.

Kansas, University of, a coeducational, non-sectarian institution in Lawrence, Kan.; founded in 1866.

Kansas-Nebraska Bill, The, an act passed by Congress in 1854, during the administration of President Franklin Pierce, for the purpose of organizing the Territories of Kansas and Nebraska. It provided, among other things, that the question of slavery should be left to the people; that questions involving the title to slaves were to be left to local courts, with the right to appeal to the United States Supreme Court; and that the fugitive slave laws were to apply to the Territories. Further, so far as this region was concerned, the Missouri Compromise of 1820, which excluded slavery from the Louisiana purchase N. of lat. 36° 30′ N., except from the State of Missouri, was declared repealed. This measure disrupted the Whig party, most of the S. Whigs joining the Democrats, and led to the organization of the Republican party in 1856. It was also instrumental in bringing about the Civil War.

Kansas Wesleyan University, a coeducational institution in Salina, Kan.; founded in 1886 under the auspices of the Methodist Episcopal Church.

Kansoo, or **Kansu,** an inland province in the N. of China; area, 86,608 square miles; pop. 5,411,188. It is mountainous, and is watered by the Yellow river. Capital, Lan-choo-foo.

Kant, Immanuel, a German philosopher; born in Konigsberg, Prussia, April 22, 1724. His three great works were: "Critique of Pure Reason," which attempts to define the nature of those of our ideas which lie outside of experience, and to establish the basis of valid knowledge; "Critique of the Practical Reason," which bases the ideas of God, freedom, and immortality on the ethical consciousness alone, denying that we have any right to hold them otherwise; and "Critique of the Power of Judgment." He died in Konigsberg, Feb. 12, 1804.

Kaolin, or **Kaolinite,** a mineral element found in granite, and generally arising from the decomposition of the felspar and occurs in many places in very extensive beds. After being levigated it is extensively used in the manufacture of porcelain, and is hence called China clay.

Kapp, Friedrich, a German biographer and historian; born in Hamm, Westphalia, April 13, 1824. He left Germany at the outbreak of

the revolution of 1848, finally wandering as far as New York. He took active part in American politics. Returning to Germany he entered the Reichstag in 1872. Nearly all his works refer to the United States. A citizen of two hemispheres, he was a pioneer in a style of literature that may be called international. He died in Berlin, Oct. 27, 1884.

Karaites, the descendants of the ancient Sadducees. Their system was revised by Anan ben David, A. D. 761 or 762. They reject tradition, and in this respect bear the same relation to the Talmudic Jews that Protestants do to Roman Catholics. They are found in various countries.

Karaman, a town of Asiatic Turkey, situated at the foot of a spur of Mount Taurus. It was the capital of a Turkish kingdom which lasted from the time of the partition of the Seljuk dominions of Iconium till 1486.

Karankawan, a ra of North American Indians which in the 17th century lived on the ı ıtral coast of Texas. They were unusually tall and well built, and given to athletic sports, from which they were calle Keles, or "wrestlers." They are now extinct.

Kara Sea, the portion of the Arctic Ocean between Nova Zembla and the Yalmal Peninsula, off the Siberian coast. The Obi and Yenisei rivers discharge their waters into its N. E. corner. Since Nordenskjold's famous voyage in the "Vega" (1875), various navigators have demonstrated the navigability of the sea. The Kara Sea being navigable for about two months (July and August), can be made available for trade with Siberia.

Karategin, a country of Central Asia, forming the E. province of Bokhara, and having the Russian province of Khokand on the N.; area 8,310 square miles. It is a highland region. The people, Tajiks by race, number about 100,000, with about 5,000 nomad Kirghiz. The native khans claimed to be descended from one of Alexander's captains, and only lost their independence in 1868.

Karauli, a native State in Rajputana, India, separated by the Chambal river from Gwalior; area 1,208 square miles; pop. 156,587, nearly all Hindus. Capital Karauli.

Karavelov, Peter, a Bulgarian statesman; born in 1840. He received his early education at Moscow, and took his degree in the University of Dorpat. He is considered the author of the Bulgarian constitution.

Karelia, an old name for the S. E. part of Finland, annexed to Russia in 1721. The Karelians are a branch of the Finnic race, about 303,000 in number, who dwell in the E. parts of Finland.

Karikal, the second in importance of the French possessions in India, on the Coromandel coast, 12 miles N. of Negapatam; area nearly 53 square miles; pop. est. 18,721. Capital, Karikal, about a mile from the sea.

Karli, a Chaitya temple-cave in the Bombay presidency, British India, on the road between Bombay and Poona. In front stands a lion-pillar, supporting four lions, and bearing an inscription which ascribes its date to the 1st century B. C. The outer porch is closed by the remains of a screen. The building consists of "a nave and two side-aisles, terminating in an apse or semi-dome, round which the aisle is carried." All the pillars are octagonal, the seven behind the dagoba or tope being plain, but the 15 on either side of the nave having richly ornamented capitals bearing elephants and human figures, all admirably executed.

Karnak, a village in Egypt built on the site of Thebes, on the bank of the Nile, and renowned for its magnificent architectural antiquities. The principal one of these is the Great Temple, 1,200 feet long and 330 feet wide. In this are found great colonnades, obelisks, and a vast quantity of sculptures. Various colored marbles, sandstones and granite are used. Other smaller temples abound, beautifully ornamented with mural decorations which portray the kings, divinities and recreations of those ancient peoples. These temples were erected at various times from 1500 B. C. to 28 B. C.

Karnovitch, Evgenij Petrovitch, a Russian historian; born near Jaroslav, Oct. 22, 1823. His historical work, "Russia's Part in the Deliverance of the Christians from Turkey's Yoke," etc., was important.

Karolyi, Count Aloys de Nagy, an Austrian statesman; born in 1825. He died in 1889.

Karr, Alphonse, a French writer; born in Paris, Nov. 24, 1808. He died in St. Raphael, Var, Sept. 29, 1890. His daughter, Therese Karr, published tales and historical books.

Kars, a fortress of Russian Armenia, about 110 miles N. E. of Erzerum. It is on a tableland of upward of 6,000 feet in elevation. Pop. about 8,500, mostly Armenians. It forms a commanding position from a military point of view on the plateau of Asia Minor, facilitating future aggression toward Turkish Armenia. Kars is nearly impregnable.

Karshi, (ancient Nakhsheb), a town of Bokhara, Central Asia, situated on a plain 95 miles S. E. of Bokhara city and 80 S. W. of Samarcand. Its knives and firearms are exported to all parts of Central Asia, Persia, Arabia, and Turkey. Pop. about 25,000.

Karuizawa, a village of Shinano, Japan, about 100 miles N. of Tokyo; 3,200 feet above sea-level; a favorite summer resort for foreigners.

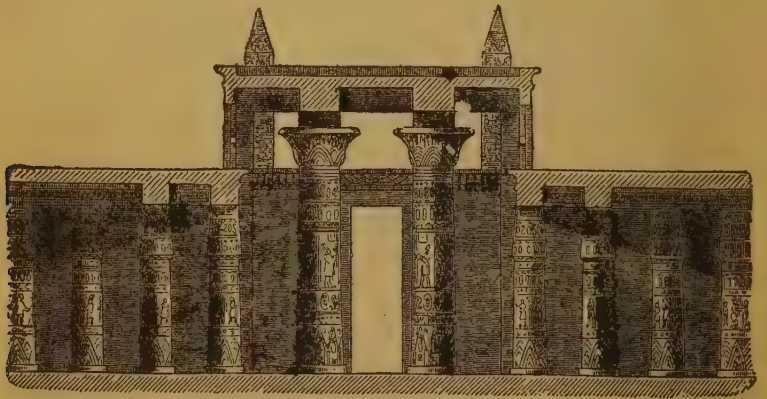
Karun River, the Ulai of Dan. viii: 2, the sole navigable river of Persia, rising in the Zardah Koh Mountains, and flowing W.

Kasanlik, a town of Eastern Rumelia, at the foot of the Balkans, five miles from the S. end of the Shipka Pass. Its capture by the Russians Jan. 7, 1878, led to the surrender of the Turkish defenders of the Shipka Pass.

Kashgar, the capital of Eastern Turkestan, Chinese empire; on a fertile and well-watered plain, 4,043 feet above sea-level. It is important commercially and strategically; in 1759 it was conquered by the Chinese, who held it with short intervals till 1863, when Yakub Beg made it his capital, the Chinese again obtaining possession of it in 1877. Pop. 60,000 to 70,000.

Kashkar, a large species of sheep inhabiting the lofty plateaus of Central Asia.

Kashmir, or **Cashmere,** an extensive principality in the N. W. of Hindustan, subject to a ruler (the Maharajah) belonging to the Sikh race. Area, estimated, 80,000 square miles; pop. (1901) 2,906,173. The chief manufacture is that of the celebrated Kashmir shawls. The genuine Kashmir shawls owe their superiority to the material of which they are made, which is not wool, but a fine kind of down obtained from the Kashmir goat, a variety of the common goat remarkable for its fine downy fleece. The colder the region where the goat pastures, the heavier is its fleece. A full-grown goat yields not more than eight ounces, the fine curled wool being close to the skin. A large



TEMPLE OF KARNAK.

shawl of the finest quality requires five pounds of the wool; one of the inferior quality from three to four pounds. It is spun by women and girls, and then passes into the hands of the dyers. From the dyers the yarns are passed to the weaver, and the shawl is woven in strips, which are afterward very skillfully sewed together. The average time taken to manufacture a good Kashmir shawl is from 16 to 20 weeks. The inhabitants of Kashmir are a fine race physically, tall, strong, and well-built, with regular features. The Maharajah is independent, but his relations with other states are subject to the authority of the government of India. The capital of the whole principality is Jammu. Srinagar (or Kashmir) is the Maharajah's summer residence and largest town.

Kaskaskia, Fort, an ancient and Revolutionary fort on the site of the present city of Kaskaskia, Ill., the first capital of the State.

Kassala, a fortified town, formerly the capital of the Nubian district of Taka, on a tributary of the Atbara, 260 miles S. of Suakim.

Kasson, John Adams, an American diplomatist; born in Charlotte, Vt., Jan. 11, 1822; was graduated at the University of Vermont in 1842; settled in Iowa and practised law; member of Congress in 1863–1867; 1873–1877, and 1881–1884; United States minister to Austria in 1877–1881 and to Germany in 1884–1885; appointed United States special commissioner plenipotentiary to negotiate reciprocity treaties in 1897; and member of the Joint High Commission on American-Canadian affairs in 1898. He is the author of "History of the Monroe Doctrine."

Katahdin, the highest mountain in Maine, about 80 miles N. by W. of Bangor. Altitude, 5,200 feet.

Katahdin, The, a twin-screw, steel, harbor-defense ram of the United States navy.

Kater, Henry, an English physicist; born in Bristol, England, April 16, 1777. He died in London, England, April 26, 1835.

Kater's Pendulum, a contrivance for measuring the force of gravity, named from its inventor, Henry Kater.

Kathiawar, a peninsula on the W. coast of India, between the Gulf of Cambay and the Gulf of Cutch. Politically, the name Kathiawar Agency is given to a collection of 187 states, which between them embrace the greater part of the Kathiawar Peninsula. Area of agency, 20,559 square miles; pop. 2,752,404.

Katkoff, Michael Nikiforovitch, a Russian journalist; born in Moscow, in 1818. He died in Snamensky, near Moscow, Aug. 1, 1887.

Katmandu, the capital of Napal, stretching for about a mile N. from the confluence of the Baghmati and Vishnumati rivers. It contains a great number of temples. The principal building is the immense ugly palace of the Maharajah; close to its modern reception room is the large military council chamber, where in 1846 most of the chief men of the state were massacred.

Katona, Isturam, the historian of Hungary; born Dec. 15, 1732. His most important work, and one of the highest authority, is his "History of Hungary" from the earliest times down to the year 1801. He died Aug. 17, 1811.

Katrine Loch, one of the most celebrated of Scotch lakes, in Stirling and Perthshires, 5 miles E. of Loch Lomond and 9½ W. of Callander. Lying 364 feet above sea-level, it has a maximum depth of 468 feet, and an area of 3,119 acres. Since 1859 it has supplied Glasgow with water.

ROUND WINGED KATYDID.

Katydid, a name applied to numerous American insects, nearly related

to grasshoppers. They are arboreal in habit, and are well concealed in the foliage by their green color. The true katydid is abundant in the Central and Western States. In their general habit, the "song" to which the syllables kat-y-did refer, and in the egg-laying accomplished by the long ovipositors of the females, these lively insects resemble the grasshopper.

Kauai, a very fertile island, of volcanic origin, belonging to the Hawaiian group; area 590 square miles; pop. 9,000. Its highest point is about 5,000 feet; principal industry sugar-planting. Captain Cook landed at the mouth of the Waumea river in 1778.

Kaufmann, Constantine von, a Russian general of German descent; born near Ivangorod, Russian Poland, May 3, 1818. Through his energetic policy Russia became the predominating power in Central Asia. He died in Tashkend, May 16, 1882.

Kaunitz, Prince Wenzel Anton von, Count of Rietberg, an Austrian statesman; born in Vienna, Feb. 2, 1711. He formed the coalition against Frederick the Great in 1756. He died June 27, 1794.

Kauri Pine, or **Kowrie,** a species of dammar, a native of New Zealand. It is a tree of great size and beauty, attaining a height of 140 feet or more, with whorls of branches, the lower of which die off as it becomes old. The timber is white, close-grained, durable, flexible, and very valuable for masts, yards, and planks. The Fiji Islands, New Hebrides, and Australia produce other species. All of them are trees of dark, dense foliage, and produce a resin called Kauri resin, or Kauri gum, and sometimes Australian copal and Australian dammar.

Kautz, Albert, an American naval officer; born in Georgetown, O., Jan. 29, 1839; was graduated at the United States Naval Academy in 1850; prisoner in North Carolina and Richmond, Va., June–October, 1861; flag-lieutenant to Farragut in 1862. When New Orleans was surrendered he entered the city and raised the National flag over the custom house; promoted lieutenant-commander in 1865; commander in 1872; captain in 1885; commodore in 1897; and rear-admiral in 1898; and in the latter year was given command of the Pacific station. In March, 1899, while commanding the "Philadelphia" he took a prominent part in settling the Samoan troubles. After holding a meeting of all the consuls and the senior officers of the English and German war vessels in the harbor on board his ship, he issued a proclamation declaring that the provisional government under Mataafa was not in accord with the terms of the Berlin treaty. The German consul, however, advised the natives to resist the demands, and this resulted in hostilities, in which several American and British officers were killed and others wounded, while the natives lost heavily before order was restored. Admiral Kautz was retired in January, 1901.

Kautz, August Valentine, an American military officer; born in Ispringen, Germany, Jan. 5, 1828; brother of Admiral Kautz. His parents settled in Ohio in 1832. He was graduated at the United States Military Academy in 1852; served through the Civil War; promoted captain in 1861; distinguished himself at Monticello, Ky., at Petersburg, Va., in the engagement on the Darbytown road in Virginia, in the capture of John Morgan, the Confederate raider, and in the Richmond campaign; promoted colonel in 1874 and Brigadier-General in 1891. He died in Seattle, Wash., Sept. 4, 1895.

Kava-Kava, Ava-Ava, or **Kawa,** a small shrub, about six feet high, with stems 1 to 1½ inches thick, native of the South Sea islands.

Kavanaugh, Julia, a British novelist; born in Thurles, County Tipperary, Ireland, Jan. 7, 1824. She died in Nice, Oct. 28, 1877.

Kavi, or **Kawi,** the ancient sacred language of Java, with a vocabulary based chiefly on Sanskrit.

Kay, John, an English inventor; born near Bury, Lancashire, England, July 16, 1704. In 1733 he invented the fly shuttle and in 1745 a power loom for the weaving of narrow goods. These inventions excited the anger of the working classes who obliged him to flee to France, where he died in destitution about 1764.

Kazan, a city of European Russia, capital of the province of the same name; on the Kasanka, about 4 miles above its junction with the Volga. It

is strongly fortified. Pop. 131,508. Kazan the province: Area, 24,601 square miles; pop. 2,191,058.

Kea, the native New Zealand name for a genus of parrots, of which only three species are known. One is a mountain species, confined to the South Island; originally a vegetable and insect feeding bird, on the introduction of sheep it began to frequent the station and feed on offal; later on the parrot acquired the habit of destroying live sheep.

Kean, Charles John, an English actor; son of Edmund Kean; born in Waterford, Ireland, Jan. 18, 1811. In 1827 he took to the stage. In 1830 he visited America, reappeared as a leading actor in London in 1838. He married the acomplished actress Ellen Tree in 1842; revisited the United States in 1845, and in 1851 became sole lessee of the Princess' Theater, London, where he put some of Shakespeare's plays on the stage with a splendor never before attempted. In 1863 he made a tour to the United States, Australia, Jamaica, Canada, etc., which proved a great financial success. His success was largely due to effective staging. He died in London, England, Jan. 22, 1868.

Kean, Edmund, an English actor; born in London, Nov. 4, 1787. Kean is said to have declared himself to be an illegitimate son of the Duke of Norfolk. Nance Carey, his mother, being an actress, Kean from his infancy made occasional appearances on the stage. He succeeded in obtaining an engagement at Drury Lane Theater, where he made his first appearance as Shylock, Jan. 26, 1814. His success was immediate, and he at once took rank as the first actor of the day. Kean paid a long visit to America. On his return to England at the end of 1826 he was cordially received. March 25, 1833, he broke down hopelessly, while playing Othello to the Iago of his son Charles, and never acted again. He died in Richmond, May 15, 1833.

Keane, John Joseph, an American clergyman; born in Ballyshannon, County Donegal, Ireland, Sept. 12, 1839. In 1846 he was brought by his family to the United States; was educated in Maryland; ordained in the Roman Catholic Church; became Bishop of Richmond, rector of the Catholic University of America, and was transferred to the titular see of Ajasso Aug. 29, 1888.

Kearney, Denis, an American agitator; born in Oakmont, County Cork, Ireland, in 1847; became foreman of a gang of stevedores in San Francisco in 1872, soon after starting in the draying business for himself; took an interest in politics. In 1877, owing to interference with his business, he began to excite the workingmen of San Francisco against capital, Chinese labor, etc., mass meetings being held in a suburb called the "Sandlots." The movement instigated by him finally succeeded in packing a convention and organizing a new constitution in its own interest for the State of California. In the summer of 1878 he visited and spoke throughout the East, but failed to make much impression.

Kearny, Stephen Watts, an American military officer; born in Newark, N. J., Aug. 30, 1794; left Columbia College to enter the American army in March, 1812; distinguished himself at Queenston Heights; promoted captain in April, 1813; after the war, was promoted through various grades, becoming Brigadier-General in 1846. In the Mexican War, commanding the Army of the West, he conquered New Mexico; and establishing a provisional government at Santa Fe he proceeded to California, where, Dec. 6, 1846, he fought the battle of San Pascual, in which he was twice wounded; was governor of California, March to June, 1847; governor of Vera Cruz, March, 1848; of the city of Mexico, May, 1848; brevetted Major-General. He died in St. Louis, Mo., Oct. 31, 1848.

Kearny, Philip, an American military officer; born in New York city, June 2, 1815. Though educated for the law, he entered the 1st United States dragoons as 2d lieutenant, and was shortly afterward dispatched by the government to Europe, to study and report upon the system of tactics pursued in the French cavalry service. After entering the Ecole Polytechnique, Paris, and serving as a volunteer in the ranks of the Chasseurs d'Afrique in an Algerine campaign, Kearny returned to the United States in 1840. From 1841 to 1844 he acted as aide to General Scott, and in 1846

became captain. Kearny served throughout the Mexican campaign, and was brevetted major for his distinguished gallantry at Contreras and Churubusco. On the termination of the war he commanded a force sent against the Indians of the Columbia River. In 1851, resigning his commission, he went to Europe, and served as volunteer aide-de-camp on the French staff throughout the Italian campaign of 1859. On the outbreak of the Civil War in 1861, Kearny hastened home, was appointed Brigadier-General of volunteers in May, and exhibited his dashing courage in all the battles of the Chickahominy campaign. In 1862 (July 4) he was commissioned Major-General of volunteers, and was killed while making a personal reconnoisance within the Confederate lines at Chantilly, Sept. 1, following.

Kearsarge. (1) A mountain 3,250 feet high, situated in Carroll co., N. H.; (2) a mountain 2,950 feet high, in Merrimac co., N. H.

Kearsarge, The, a ship of the United States navy which played a conspicuous part in the only sea-fight of the Civil War. She was launched at Portsmouth, N. H., in September, 1861. She had an armament of seven guns; two 11-inch Dahlgren, one 30-pounder rifle, and four light 32-pounders. She carried 163 men in all, and was commanded by Capt. John A. Winslow. On June 10, 1864, while off the coast of Cherbourg, France, she fell in with the Confederate cruiser "Alabama," accompanied by the English yacht "Deerhound." A fierce battle ensued lasting for two hours, when the Confederate colors were struck and a white flag raised. Soon after the "Alabama" went down, the officers and crew being rescued by the "Kearsarge" and the "Deerhound." The "Kearsarge" was wrecked Feb. 2, 1894, on a reef in the Caribbean Sea.

Kearsarge, The, a twin-screw, steel battleship of the United States navy, launched, with her sister ship, the "Kentucky," at Newport News, March 24, 1898. Her dimensions, armament, etc., are as follows: length on load-water line, 368 feet; beam extreme, 72 feet 2.5 inches; mean draft, 23 feet 6 inches; displacement, 11,525 tons; horse power, 10,000; speed, 16 knots per hour; main battery, four 13-inch, four 8-inch, and fourteen 5-inch rifles; secondary battery, twenty 6-pounders, six 1-pounders, and four machine guns; cost, about $4,000,000. She carries a complement of 511 men. Both the "Kearsarge" and the "Kentucky" are fitted with superimposed turrets, an experiment whose usefulness has been questioned by naval experts. The Kearsarge, with Admiral Cotton on board, visited England and Germany in 1903, and was splendidly received.

Keats, John, an English poet; born in London, England, Oct. 29, 1796. Leigh Hunt lent the kindly sanction of his name to the first poems Keats published in 1817. In the next year he published "Endymion," a poetical romance, and, in 1820, his last and best work, "Lamia," and other poems. These poems were very roughly treated by the "Quarterly Review," and Keats, with his over-sensitive nature, took it too much to heart. Being in feeble health, from a severe pulmonary disease, he was advised to try the climate of Italy, where he arrived in November, 1820. He died in Rome, Feb. 23, 1821. Shelley lamented his poet friend in the beautiful and well-known "Adonais."

Keble, John, an English poet; born in Fairford, Gloucestershire, England, April 25, 1792. Of his great work "The Christian Year" over 500,000 copies in all have been sold, and from its profits the author built one of the most beautiful parish churches in England. He died in England, March 27, 1866.

Kedge, a small anchor used to keep a ship steady and clear from her bower anchor, while she rides in a harbor or river, also in removing her from one part of a harbor to another.

Kedron, or **Kidron,** spoken of as a "brook" in the English Bible, should rather be called (as in John, xviii: 1, new version, margin) "ravine" or "winter torrent." It is a gorge close to Jerusalem on the E., running away in the direction of the Dead Sea. Water never flows in it save during the heavy rains of winter. At other times it is a dry wady.

Keel, in shipbuilding, the lower longitudinal beam of a vessel, answering to the spine, and from which the ribs

proceed. In wooden vessels an additional timber beneath is called the false keel. A sliding keel is a board amidships, working in a trunk in the line of the keel, and extending from the bottom to the deck. It is lowered to prevent a vessel's making leeway when sailing with a side wind.

Keeley, Leslie E., an American physician; born in 1842; was graduated at Rush Medical College in 1864. He founded the system for the cure of inebriety and the use of narcotics, commonly known as the gold or Keeley cure. He died in Los Angeles, Cal., Feb. 21, 1900.

Keel-haul, or **Keel-hale,** to punish in the seamen's way by dragging the offender under water on one side of the ship and up again on the other by ropes attached to the yard-arms on either side. In small vessels the culprit is drawn under the craft from stem to stern. In a recent instance in the Egyptian navy an offender was keel-hauled till he died.

Keeling, or Kokos Keeling, Islands, a group of about 20 small coral atolls in the Indian Ocean, lat. 12° S., and about 500 miles S. W. of Java; pop. 554. These islands were discovered by Captain Keeling in 1609. They were annexed to England in 1857.

Keelson, or **Kelson,** in shipbuilding, a longitudinal piece above the floor timbers, binding them to the keel.

Keely, John Ernest Worrell, an American adventurer; born in Philadelphia, Pa., Sept. 3, 1837. In early life he was a carpenter, and afterward was attached to a circus as sleight-of-hand performer. Prior to 1872 he became interested in music, and afterward claimed that the tuning-fork had suggested to him a new motive power. For 25 years he succeeded in deceiving the people of two continents in claiming to have discovered the hidden force moving the universe, and to have utilized this force in a machine known as the Keely motor. He died in Philadelphia, Pa., Nov. 18, 1898.

Keely Motor, a machine exhibited after years of experiment by John E. W. Keely, and which appeared to have great power. From 1872 to 1891 he built and rejected 129 different models; in 1881 a wealthy woman of Philadelphia built a new laboratory for him, and also furnished a weekly salary, that he might continue his experiments. At various exhibitions he produced wonderful effects, but never revealed how these were accomplished, and it was only after his death that the whole scheme was found to be a fraud, his machine having been operated by a compressed air motor in the cellar.

Keen, William Williams, an American surgeon; born in Philadelphia, Pa., Jan. 19, 1837; was graduated at Brown University in 1859, and at Jefferson Medical College in 1862; assistant surgeon 5th Massachusetts regiment in 1861; acting assistant surgeon United States army, and studied in Europe. He paid special attention to the surgery of the nervous system; was a pioneer in cerebral surgery; in 1890 published experiments with the injection of filtered air for the determination of rupture of the bladder; in 1891 proposed relieving spasmodic wryneck by the exsection of the nerves supplying the posterior rotator muscles of the head.

Keene, Laura, an American actress; born in England in 1820. She came to the United States in 1852 and made her home here the remainder of her life. She was for a time manager of the Varieties Theater in New York, and 1855–1863 was the lessee of the Olympic, at first called "Laura Keene's Theater." Among the new plays she produced was "Our American Cousin," with Jefferson and Sothern in the cast. It was while witnessing this play at Ford's Theater in Washington that President Lincoln was assassinated, and Mrs. Keene was one of the first to reach his side and attempt to relieve him. She died in Montclair, N. J., Nov. 4, 1873.

Keeners, Irish singing mourners, who, in olden times, were hired to howl at funerals, in perpetuation of a heathen custom derived from a Phœnician ancestry.

Keewatin, a district of Canada; area, 756,000 square miles. It is administered by the lieutenant-governor of Manitoba, but is nearly uninhabited, excepting by Eskimos in the N. Norway House, an important station of the Hudson Bay Company, and one or two other posts belonging to that corporation, are the only settle-

ments in the districts. The principal attraction is the game, large and small, with which it abounds. In some parts valuable minerals are believed to exist, but they have not been developed. The country is well watered and timbered in many places, but is not suitable for cultivation to any extent. It embraces the N. part of Lake Winnipeg, with its important fisheries, and includes the mouth of the Saskatchewan river, which is navigable, except for a short distance, for nearly 1,000 miles. The Nelson river passes through the province, as well as the Churchill and numerous smaller streams; and the Chesterfield Inlet on the W. side of Hudson Bay penetrates nearly to its W. boundary. It was created a district April 12, 1876.

Keith, James, known as Marshal Keith, a Russian and Prussian military officer; born near Peterhead, Scotland, June 11, 1696. He studied law at Aberdeen and Edinburgh; in 1715 engaged with his brother in the Jacobite rising, and in 1719 in Alberoni's expedition to the West Highlands. Both times the brothers escaped to the Continent; and James held for nine years a Spanish colonelcy. In 1728 he entered the Russian service as a Major-General. He distinguished himself in the wars with Turkey and Sweden. To be healed of a wound received on the former occasion he visited Paris, and thence crossed over to London, where he made his peace with the Hanoverian government. In 1747, finding the Russian service disagreeable, he exchanged it for that of Prussia. Frederick the Great gave him at once the rank of Field-Marshal. From this time his name is associated with that of the King of Prussia. Keith's talents became still more conspicuous on the breaking out of the Seven Years' War (1756). He was killed at the battle of Hochkirch, Oct. 14, 1758.

Kelat, Khelat, or Kalat, the capital of Baluchistan, at an elevation of more than 7,000 feet; seated on the summit of a hill, it is a place of great military importance. It was occupied by England (1839–1841); and in 1877 a treaty was concluded with the khan by which a British agent, with military escort, became resident at the court of Kelat. In 1888 Kelat was formally incorporated with the Indian empire as a British possession. Pop. about 14,000.

Kelati Nadiri, one of the strongest natural fortresses in the world, in the Persian province of Khorasan, and close to the Russian frontier of Transcaspia. Owing to Russia's schemes on Khorasan Kelati Nadiri has gained considerable importance.

Kellermann, Francois Christophe, a marshal of France; born in Strasburg in 1735. Early entering the service of his country, he gained great distinction in the Seven Years' War. Having joined the popular side on the breaking out of the Revolution, he was given the command of the army of the North, and in 1792 gained the splendid victory of Valmy over the Prussians, and was, in 1795, intrusted with the command of the armies of Italy and the Alps. The ascending star of Napoleon superseded Kellermann as an independent commander. At the Restoration he was created a peer of France. He died in 1820.

Kelley, Edgar Stillman, an American composer; born in Sparta, Wis., April 14, 1857; studied music in the United States and in Stuttgart, Germany; settled in San Francisco, composing there incidental music to "Macbeth"; later in New York, where he became special instructor in composition in the New York College of Music, and where his opera, "Puritana," was produced in 1892.

Kelley, James Douglas Jerrold, an American naval officer; born in New York city, Dec. 25, 1847; was graduated at the United States Naval Academy in 1868; promoted commander in 1899.

Kelley, William Darragh, an American legislator; born in Philadelphia, Pa., April 12, 1814. After receiving a common school education he was apprenticed to a jeweler, and he worked at his trade for five years in Boston. Returning to Philadelphia in 1839, he studied law and was admitted to the bar in 1841. He took part in politics as a Democrat and was attorney-general of Pennsylvania 1845–1846. He was judge of the court of common pleas 1846–1856, and in the meantime joined the Republican party. He was elected to Congress in 1860, and remained there by successive elec-

tions till his death. He was known as the "Father of the House." He died in Washington, D. C., Jan. 9, 1890.

Kellogg, Clara Louise, an American opera singer; born in Sumterville, S. C., July 12, 1842. She obtained her musical education in New York city, with the exception of a few lessons taken in London, England. Her first appearance in opera was in 1861 at the Academy of Music in New York city. Her voice was a pure and flexible soprano and her execution brilliant. In 1874 she organized an English opera company and with it visited nearly every part of the United States. In 1887 she was married to Carl Strakosch and retired to private life.

Kellogg, Edgar Romeyn, an American military officer; born in New York city, March 25, 1842; served through the Civil War; distinguished himself at Murfreesboro, during the Atlanta campaign, and at Jonesboro; promoted captain in 1865; colonel, 1898; Brigadier-General, 1899; and commanded the 10th United States Infantry at the battle of San Juan Hill, Cuba, July 1, 1898.

Kellogg, Samuel Henry, an American theologian; born in Quogue, Long Island, N. Y., Sept. 6, 1839; was graduated at Princeton College in 1861 and at the Theological Seminary in 1864; was ordained in the Presbyterian Church and went as a missionary to India, where he remained till 1877; returned to India in 1892 and remained there till his death, May 2, 1899.

Kelly, James Edward, an American sculptor; born in New York city, July 30, 1855; studied art at the National Academy of Design. In 1895 he furnished the Long Island panel, and in 1897 the memorial of the battle of Harlem Heights on the grounds of the Columbia University, both for the Sons of the Revolution. He has also illustrated several magazines.

Kelly, John, an American politician; born in New York city, April 21, 1821; received a public school education; was a Democratic member of Congress, and comptroller of New York city. He died in New York city, June 1, 1886.

Kelung, a town and seaport in the N. part of Formosa. It was opened to foreign commerce in 1863, and has since rapidly increased in importance. Pop. about 70,000.

Kemble, Adelaide, an opera singer; daughter of Charles Kemble; born in 1814. Her first success was attained in 1839, when she sang in Venice in "Norma," and thenceforward she grew in public favor. In 1843 she was married to Frederick U. Sartoris, and retired from the stage. She died Aug. 4, 1879.

Kemble, Charles, an English actor; brother of John Philip Kemble; born in Brecknock, Wales, Nov. 25, 1775. He was educated at Douay (France), returned to England in 1792, obtained a situation in the post-office, but relinquished it in favor of the stage in 1794. He was appointed censor of plays in 1840, when he retired from the stage and only gave occasional Shakespearean readings. He had married the favorite actress, Miss de Camp in 1806. He was the father of John Mitchell Kemble, Frances Anne Kemble, and Adelaide Kemble. He died in London, Nov. 12, 1854.

Kemble, Frances Anne, popularly known as Fanny Kemble, an Anglo-American writer and actress; eldest daughter of Charles Kemble, and niece of Mrs. Siddons; born in London, England, Nov. 27, 1809. Her father being in financial difficulties she was induced to appear on the stage. Her trip to America in company with her father was also a splendid triumph; while there she contracted an unfortunate marriage (1834), which was annulled by divorce 15 years afterward. She lived for many years in Lenox (Mass.). She returned to London in 1847, and from that time resided alternately in the United States, England, and the Continent. She died in London, England, Jan. 16, 1893.

Kemble, John Mitchell, an English Anglo-Saxon scholar, son of Charles Kemble; born in London, England, April 2, 1807. He died in Dublin, Ireland, March 26, 1857.

Kemble, John Philip, an English tragedian; born in Prescot, near Liverpool, England, Feb. 1, 1757. He was eldest son of Roger Kemble, man-

ager of a provincial theatrical company. Being intended for the Church he was sent to the Roman Catholic college at Douay (France), but he selected the stage as a profession; he made a most successful tour of France and Spain, and on his return to London purchased a share in the Covent Garden Theater, and made himself a splendid reputation. His theater having been burned down, he opened the new edifice in 1809. He abandoned the stage in 1817. His statue was placed in Westminster Abbey in 1833. His sister, Sarah, was the celebrated Mrs. Siddons. He died in Lausanne, Switzerland, Feb. 26, 1823.

Kempelen, Baron Wolfgang von, an Austrian mechanician; born in Pressburg, Hungary, Jan. 23, 1734. He invented a so-called automaton chess player (in which a living player was concealed) for the amusement of the Empress Maria Theresa, exhibited in the United States, Paris and England; also an automaton speaking human figure in 1778. He died in Vienna, March 26, 1804.

Kemper, Jackson, an American clergyman; born in Pleasant Valley, Duchess co., N. Y., Dec. 24, 1789; was graduated at Columbia College in 1809; deacon in 1811; priest in 1812; missionary bishop of Indiana and Missouri; transferred to the Northwestern Territory; Bishop of Wisconsin in 1854; died in Delafield, Wis., May 24, 1870.

Kemper, Reuben, an American adventurer; born in Fauquier co., Va., in 1770; was bitterly opposed to the Spanish and devoted much of his time to seeking to drive them out of North America; commanded a force of 600 soldiers in aiding the Mexican insurgents in their conflict with Spain in 1812; and fought under General Jackson at New Orleans in 1815. He died in Natchez, Miss., Oct. 10, 1826.

Kempff, Louis, an American naval officer; born near Belleville, Ill., Oct. 11, 1841; was graduated at the United States Naval Academy in 1861; assigned to the "Vandalia" on blockade duty off Charleston; served with distinction throughout the Civil War; captured the schooner "Henry Middleton," and took part in the battle at Port Royal, S. C.; promoted captain in 1891; rear-admiral in 1899. When the Boxer troubles began in China in 1900 he was placed in command of the United States naval forces in Chinese waters. On May 29 he sent 108 marines ashore, who coöperated with the men landed from the other foreign warships in the harbor at Taku. An attempt was made to send this combined force to Peking where the foreign legations were besieged by Boxers, but it failed. Later, however, a part of the international troops, including 63 Americans, went to the capital by train, reaching there June 1. The troubles increased to such an extent that the foreign admirals at Taku, with the exception of Kempff, ordered the surrender of the forts at Taku and when this was refused bombarded them and compelled their surrender. At the time Admiral Kempff was censured, but later he showed that it was not the policy of the United States to commit any act which might be construed by the Chinese as a casus belli. The attack on the Taku forts he held was equivalent to a declaration of war against China. Admiral Kempff's action was approved by the United States government and later commended by statesmen throughout Europe.

Kempis, Thomas a, a German mystic; born in Kempen (whence his name, "Thomas from Kempen"), near Cologne, in 1380. His true name was Hamerken. Sub-prior of the monastery of Mount St. Agnes, near Zwolle, he was distinguished for piety and success as an instructor of youth. He was author of the "Imitation of Christ," one of the most famous of books. It is said that it has been translated into more languages than any other book except the Bible. He died in 1471.

Kendal, Mrs. (Madge Grimston), an English actress; born in Cleethorpes, Lincolnshire, England, March 15, 1849. She was known on the stage as Madge Robertson and made her first appearance in London, as Ophelia, in 1865. She soon gained a reputation as an excellent actress of high comedy. On her marriage to W. H. Grimston in 1869 she assumed with him the stage name of Kendal. Mr. and Mrs. Kendal made several visits

to America after 1889. Mrs. Kendal was a sister of the dramatist, T. W. Robertson.

Kendal, William Hunter, stage name of an English actor, William H. Grimston, who was born in London, Dec. 16, 1843. After his marriage to Madge Robertson (Aug. 7, 1869), he played leading parts with her.

Kendall, Amos, an American statesman; born in Dunstable, Mass., in 1789. He was graduated at Dartmouth College in 1811; was admitted to the bar in 1814 and went to Kentucky where he practised law and edited a paper. In 1835 he was appointed Postmaster-General by President Jackson and was retained in the office by President Van Buren. He made great changes and improvements in the administration and workings of this office, relieved the postoffice from the debt which had so long encumbered it, and induced Congress to adopt a system which with but few alterations has been in effect ever since, and which made this department one of the strongest in the government. He retired from public life in 1840 and devoted the rest of his life to the duties of his profession. He died in Washington, D. C., Nov. 12, 1869.

Kendall, George Wilkins, an American writer; born in Mount Vernon, N. H., about 1809. He was founder of the New Orleans "Picayune," which became under his direction one of the leading journals of the South. He died in Oak Springs, Tex., Oct. 22, 1867.

Kendrick, Ashael Clark, an American scholar; born in Poultney, Vt., Dec. 7, 1809. Besides bringing out translations and several text-books, he published "Our Poetical Favorites"; "Life and Letters of Emily C. Judson." He was one of the American committee of New Testament revisers. He died in Rochester, N. Y., Oct. 21, 1895.

Kenesaw Mountain, a mountain in Georgia, 25 miles N. W. of Atlanta. It is famous as the scene of a battle in the Civil War between the Union troops under Sherman, and the Confederates under Johnston, which took place in June, 1864, and resulted in the repulse of Sherman with a loss of 3,000 men.

Kennan, George, an American traveler; born in Norwalk, O., Feb. 16, 1845. His journeys through Northern Russia and Siberia in the years 1885–1886 for the purpose of investigating the condition of the Siberian exiles resulted in the publication of a series of papers, afterward issued in book form under the title "Siberia and the Exile System."

Kennebec, a river of Maine, over 150 miles in length. In its course it falls 1,000 feet, affording abundant water power. Except for a few miles from its mouth, the river is closed by ice for from three to four months in the year; and many companies are engaged in harvesting and storing the ice.

Kennedy, Crammond, an American lawyer; born in North Berwick, Scotland, Dec. 29, 1842; came to the United States in 1856; served as chaplain in the Civil War in 1861–1863; was associated with Henry Ward Beecher in 1869 in founding the "Christian Union," of which he became editor in 1870; admitted to the bar in 1878 and practised in New York and Washington, D. C.

Kennedy, John Pendleton, an American writer; born at Baltimore, Oct. 25, 1795. Active in politics and several times member of Congress, he was Secretary of the Navy under President Fillmore. He died in Newport, Aug. 18, 1870.

Kennedy, William Sloane, an American clergyman; born in Muncy, Pa., June 3, 1822; was graduated at the Western Reserve College in 1846; studied theology and was ordained pastor of the Congregational Church in Brecksville, O. He was the author of "Messianic Prophecies," etc.

Kenrick, Francis Patrick, an American clergyman; born in Dublin, Ireland, Dec. 3, 1797. He founded the seminary of St. Charles Borromeo in Philadelphia in 1832; became archbishop of Baltimore, 1851; honorary primate of the United States 1859. He died in Baltimore, Md., July 6, 1863.

Kenrick, Peter Richard, an American clergyman; born in Dublin, Ireland, Aug. 17, 1806; ordained priest in the Roman Catholic Church in 1830; came to the United States in 1833; appointed coadjutor to Bishop Rosati of St. Louis in 1841, and suc-

ceeded to that bishopric in 1843; was created first archbishop of St. Louis in 1847. He died in St. Louis, Mo., March 4, 1896.

Kensett, John Frederick, an American painter; born in Cheshire, Conn., March 22, 1818. He spent the time from 1840 to 1847 in Europe, visiting and painting in France, Italy, England and other countries, and in 1849 was elected National Academician. He is best known by his paintings of the White Mountains, Catskills, Adirondacks, etc. In 1859 he was appointed one of the commission to superintend the decoration of the capitol at Washington. He died in New York, Dec. 16, 1872.

Kent, Duke of, 4th son of George III. and father of Queen Victoria; born in Buckingham Palace, London, Nov. 2, 1767; married Victoria Mary Louisa, May 28, 1818; died in Sidmouth, Devonshire, England, Jan. 23, 1820.

Kent, Jacob F., an American soldier; born in Philadelphia, Pa., Sept. 14, 1835; entered the army as 2d lieutenant of the 3d United States Infantry, May 6, 1861. Was promoted 1st lieutenant July 31, 1861; captain Jan. 8, 1864; brevetted lieutenant-colonel, May 12, 1864, for gallant meritorious services in the battle of Spottsylvania, Va.; brevetted colonel of volunteers, Oct. 19, 1864, for faithful and meritorious services in the field during the campaign before Richmond. When the war with Spain began he was colonel of the 24th Infantry. He was made Major-General of volunteers, July 8, 1898, and served with distinction in Cuba and, afterward in the Philippines. He was retired Oct. 15, 1898.

Kent, James, an American jurist; born in Philippi, N. Y., July 31, 1763. Author of the famous "Commentaries on American Law" (4 vols. 1826–1830), which holds in this country a position similar to that occupied by Blackstone's "Commentaries" in Great Britain. He was chief-justice and chancellor of the State of New York. He died in New York, Dec. 12, 1847.

Kent Island, an island some 16 miles long in Chesapeake Bay, Md., 7 miles E. of Annapolis. It was here the first settlement in Maryland was made by William Claiborne in 1631.

Kentucky, a State in the South Central Division of the North American Union; area, 40,000 square miles; admitted to the Union, June 1, 1792; number of counties, 119; pop. (1900) 2,147,174; capital, Frankfort.

The surface of the State is in general a plateau, sloping from the mountains in the E. to the rivers on the N. and N. W. The mountains in the S. E., the Cumberland and the Pine, run parallel and include the valley of the Cumberland river. This valley is 75 miles in length, 15 miles in width and has an elevation of 1,000 to 1,500 feet above sea-level. The mountain peaks bounding the valley often reach a height of 2,500 feet and give it more picturesque beauty than in any other part of the Appalachian system. The Mississippi, Ohio, and Big Sandy rivers form over one-half the boundary line of Kentucky, and besides these the Licking, Kentucky, Salt, and Green lie entirely within the State. The Tennessee and Cumberland rivers rise in Virginia and Kentucky respectively, the Tennessee running through Tennessee and Alabama, and the Cumberland through Tennessee alone; enter the State and cross it in parallel courses and empty into the Ohio within 15 miles of each other. These rivers are all navigable.

The principal mineral resource of the State is coal. There are two great coal fields, one of 12,000 square miles in the E. and one of 4,000 square miles in the W. The soil is as a rule exceedingly rich and fertile, especially in that part known as the Blue Grass section, an area of over 10,000 square miles. The fertility of this region is due to the constant decay of a rich sub-stratum of lower Silurian limestone. It is said that there are not over 200 square miles of irreclaimable land in the entire State. There are quite extensive forests in the mountain regions. The great fertility of the river bottoms and the Blue Grass section makes Kentucky one of the foremost agricultural States in the Union. In 1900 the principal crops reported were corn, wheat, oats, hay, potatoes, rye, barley, and tobacco. The principal industries are in connection with tobacco, liquors, flour and grist mill

products, lumber and timber products, iron and steel, slaughtering and meat packing, and foundry and machine-shop products.

The public schools are well attended and illiteracy is comparatively rare and decreasing. The strongest denominations in the State are the Regular Baptist, South; Roman Catholic; Methodist Episcopal, South; Disciples of Christ; Regular Baptist, colored; Methodist Episcopal; African Methodist; and Presbyterian, South.

The governor is elected for a term of four years and receives a salary of $6,500 per annum. Legislative sessions are held biennially, and are limited to 60 days each. The Legislature has 38 members in the Senate and 100 in the House, each of whom receives $5 per day and mileage. There are 11 representatives in Congress.

With the earliest history of Kentucky is associated the name of Daniel Boone, whose exploits in hunting and Indian fighting in the then distant and unexplored wilderness dates as far back as 1769. He founded Boonesborough in 1775, and Harrodsburg being settled about the same time, these two towns are, with the exception of the French settlements the oldest in the West. Soon after Kentucky was made a county of Virginia, and the first court held at Harrodsburg in 1777. In 1790 Kentucky became a separate territory, and in 1792 was admitted into the Union. Since then, with the exception of the Civil War, its progress has been very rapid.

Kentucky, The, a battleship of the United States navy, launched with her sister-ship, the "Kearsarge," at Newport News, March 24, 1898. These two new battleships are alike in every particular.

Kentucky Resolutions, a series of nine resolutions introduced into the Kentucky Legislature in 1798, by George Nicholas, though it was afterward known that Thomas Jefferson was the author of them. They were directed against the Alien and Sedition laws, and against acts passed to punish frauds on the Bank of the United States, and emphasized the rights of the several States. Another resolution was added in 1799.

Kentucky University, a coeducational institution in Lexington, Ky.; founded in 1858 under the auspices of the Christian Church.

Kenyon College, an educational institution in Gambier, O.; founded in 1825 under the auspices of the Protestant Episcopal Church.

Kepler, or **Keppler, Johann,** a German astronomer; born in Weil der Stadt, Wurtemberg, Dec. 27, 1571. He studied at the University of Tubingen, applying himself chiefly to mathematics and astronomy. In 1593 he was appointed Professor of Mathematics at Gratz, and about 1596 began a correspondence with Tycho Brahe, which resulted in his going to Prague in 1599 to aid Tycho in his work. Tycho obtained for him a government appointment, but the salary was not paid, and Kepler lived for 11 years there in great poverty. He then obtained a mathematical appointment at Linz, and 15 years afterward was removed to the University of Rostock. In his "Mystery" he proclaims that five kinds of regular polyhedral bodies govern the five planetary orbits. Yet after publication he became convinced that this theory was only an error. After 22 years of patient study he was able to announce in his "Harmonies of the World" (1619) that the "square of a planet's periodic time is proportional to the cube of its mean distance from the sun." This rule is known as Kepler's Third Law. He says clearly enough that it implies that the planets are moved by a force greater near the sun, and lessening with distance. Finding the theory of epicycles unable to bear the strain of Tycho Brahe's accurate observations, especially in the case of the planet Mars, he endeavored to find a law for the planet's movements which would be simple and satisfactory. After enormous labor, and by a process of trial and error, he found that (1) the planet's orbit was an ellipse, of which the sun is in one focus, and (2) that, as the planet describes its orbit, its radius vector traverses equal areas in equal times. These rules (published in 1609 in his work on "The Motions of Mars") are known as Kepler's First and Second Laws respectively. These laws formed the ground-work of Newton's discoveries, and are the starting-point of modern astronomy. He died in Ratisbon, Nov. 15, 1630.

Keraty, Count Emile de, a French politician and author; born in Paris, France, March 20, 1832; served as a volunteer in the Crimean War; as a French guerrilla in Mexico (1863–1865). During the war of 1870 as General of Division, he organized over 50 battalions in Brittany, but resigned. He was prefect of Toulouse and of Marseilles (1871–1872).

Kerguelen's Land, or **Desolation Island,** an island of volcanic origin, in the Antarctic Ocean. The island was discovered in 1772 by a Breton sailor, Kerguelen-Tremarec, and was visited by Captain Cook, who christened it Desolation Island. It was visited in 1874 by American, English and German expeditions to observe the transit of Venus.

Kerki, a town belonging formerly to Bokhara, Central Asia, about 120 miles S. of Bokhara city, on the left bank of the Amu-Daria or Oxus. An important place both commercially and strategically, it is the halting place of the caravans trading from Bokhara to Herat. The fortress is garrisoned by Russian troops.

Kermadec Islands, a group of volcanic islands in the Pacific Ocean, 700 miles N. E. of Auckland, New Zealand.

Kerman, or **Karman** (ancient Carmania), one of the E. provinces of Persia, S. of Khorasan, and having an area of about 59,000 square miles. The N. and N. E. are occupied by a frightful salt waste called the Desert of Kerman, which forms a part of the great central desert of Iran. The S. portion, although mountainous, is equally arid and barren with the N., except the small tract of Nurmanshir, toward the E., which is fertile and well watered. The inhabitants, about 300,000, are chiefly Persians.

Kermess, Kirmess, or **Kermis,** a Church festival held originally by the Dutch and later in other parts of Europe, on the feast-day of the principal saint of a place or church. In the United States the word has come into use for entertainments given for charitable purposes.

Kerosene, a name given to the principal product of the distillation of petroleum, the crude domestic oil yielding 70 per cent. of its weight.

Kersey, a variety of woolen cloth, differing from ordinary broadcloth by being woven as a twill.

Kertch, a seaport in Russia, on the Strait of Kaffa, or Yenikale, and previous to 1855 the most important port of the Crimea. It has had an eventful history. The town occupies the site of the ancient Panticapæum, the seat of the Bosphorian kings and once the residence of Mithridates. It was later occupied by the Byzantine empire, Turks, etc., and was turned over to Russia in 1744.

Kesora, the female idol adored in the temple of Juggernaut. Its head and body are of sandalwood, its eyes two diamonds, and a third diamond is suspended round its neck; its hands are made entirely of small pearls; its bracelets are of pearls and rubies, and its robe is cloth of gold.

Kestrel, a raptorial bird feeding on mice, insects, etc. The kestrel, when hunting for prey suspends itself in the air by a constant motion of its wings.

Kettell, Samuel, an American writer; born in Newburyport, Mass., Aug. 5, 1800; died in Malden, Mass., Dec. 3, 1855.

Kettle, Mary Rosa Stuart, pseudonym Rosa Mackenzie Kettle, an English novelist; born in Overseale, Leicestershire, England. She became popular through her stories of Cornwall and the South Coast.

Kettle Drum, a musical instrument, so named from its resemblance to a hemispherical kettle.

Keuka College, a coeducational institution in Keuka Park, N. Y.; founded in 1892 under the auspices of the Free Baptist Church.

Kew Observatory, an astronomical station in England. It was built by George III. as a private enterprise for the observation of the transit of Venus in 1769 and was then called the King's Observatory. It is now principally used as an institution for examining and testing meteorological and magnetic instruments, and for taking daily photographs of the sun.

Key, Francis Scott, an American poet; born in Frederick co., Md., Aug. 9, 1780. He was a lawyer by profession. Being detained on one of the British ships during the bombardment of Fort McHenry, Sept. 14,

1814, he composed the words of "The Star-Spangled Banner." He died in Baltimore, Md., Jan. 11, 1843.

Keyes, Emerson Willard, an American financier; born in Jamestown, N. Y., June 30, 1828; was graduated from State Normal School, Albany, 1848; was teacher for several years; became superintendent of public instruction and was deputy superintendent of the banking department of the State of New York from 1865 to 1870, and exercised great influence on the organization of the National banking system. He died in Brooklyn, N. Y., Oct. 17, 1897.

Keyes, Erasmus Darwin, an American military officer; born in Brimfield, Mass., May 29, 1810; was graduated at the United States Military Academy in 1832; served in the Civil War, winning distinction at Fair Oaks and in other actions; promoted Major-General of volunteers May 5, 1862, and on May 31 of that year was brevetted Brigadier-General U. S. A.; resigned in 1864 and settled in California. He died in Nice, France, Oct. 11, 1895.

Keystone, in masonry, the central voussoir at the vertex of an arch. The row or course of said stones along the crown of an arch is the key-course.

Keystone State, an appellation bestowed on Pennsylvania, because it was the seventh, or central, one of the original 13 States.

Key West, a city and county-seat of Monroe co., Fla.; on the Gulf of Mexico. It is also a port of entry and a noteworthy United States naval station. The city is built on an island of the same name, 7 miles long by 1 to 2 wide, of coral formation, elevated only 11 feet above the sea, and covered with a thin layer of soil on which tropical fruits are successfully cultivated. Key West has an excellent harbor. During the Spanish-American war the city was the rendezvous of the United States navy. Pop. (1900) 17,-114.

Khaki, an earthy or gray clay color, now largely used to dye the uniform of Indian soldiers and sepoys. The word was given to the service uniform of the American army in the war with Spain and in the operations in the Philippines because of the color

Khan, an Asiatic governor; a king, a prince, a chief. Also an inn, a caravansary.

Kharkov, the capital of the Russian province of Kharkov, 465 miles S. by W. of Moscow. It is the seat of a university which has been an energetic center of the Nihilist movement, especially previous to the assassination of Alexander II. in 1881. Pop. 174,846.

Khartum, a town in the Eastern Sudan, on the left bank of the Blue Nile, near its junction with the White Nile. It was the scene of Gordon's heroic defense against the insurgent Sudanese, and of his death in January, 1885. It was taken and held by the Mahdi and his successor till September, 1898, when it was recaptured. Pop. about 50,000.

Khaya, one of the most abundant forest trees in Senegal, Africa. It attains a height of 80 or 100 feet, and is much valued for its timber, called African mahogany, which is reddish colored, very hard, durable, and of beautiful grain.

Khedive, the official title of the ruler of Egypt; a rank superior to viceroy, but inferior to an independent monarch.

Khiva, a semi-independent khanate of Central Asia, forming part of Turkestan. It is of a triangular shape, each of its three sides being about 300 miles in length. A great part of the surface consists of deserts. Trade is now being rapidly developed by Russian influence. Pop. (1900) est. 700,-000. Khiva, the capital, lies on an alluvial flat at the junction of two canals, 50 miles W. of the left bank of the Amu.

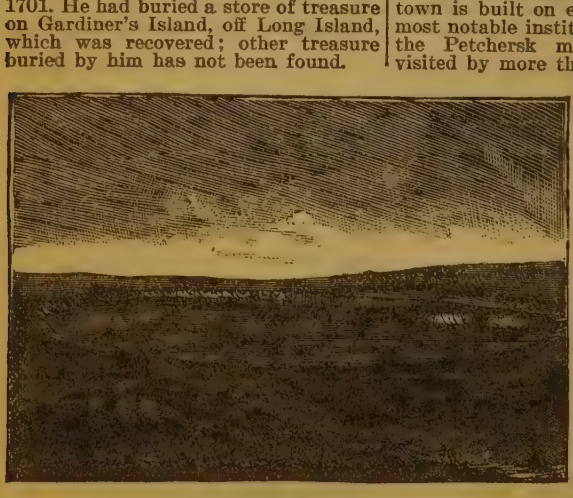
Khorasan, a province of Persia, bordering on Afghanistan; area 140,-000 square miles; pop. (1900) est. 860,000. Much of the surface consists of deserts, but there are also fertile districts.

Khyber Pass, a military road between the Punjab and Afghanistan, winding in a N. W. direction for 33 miles between the projecting spurs of two enclosing ranges of hills. The pass is merely the bed of a narrow watercourse, liable at times to be flooded. It has been the key of the adjacent regions in either direction from the days of Alexander the Great.

Kiau-Chau, a town in China, in the province of Shantung, occupied by Germany in 1897, and formally ceded to that power on a 99 years' lease by China in 1898.

Kickapoo, the name of a tribe of North American Indians who formerly occupied a portion of the Ohio valley and were a powerful nation in the early history of that region.

Kidd, William, an American pirate; born probably in Greenock, Scotland. A ship of 30 guns was fitted out by a private company in London, was given to Kidd, who was to seize pirates. In January, 1697, he reached Madagascar, but ere long reports reached England that Captain Kidd was playing the game of pirate himself. After a two years' cruise he returned to the West Indies, and a few months later went to Boston. He was arrested and sent to England, where he was tried for piracy and murder. Of the latter charge he was found guilty, and hanged May 24, 1701. He had buried a store of treasure on Gardiner's Island, off Long Island, which was recovered; other treasure buried by him has not been found.



CRATER OF KILAUEA.

Kidder, Daniel Parish, an American clergyman; born in Darien, N. Y., Oct. 18, 1815; was a missionary to Brazil for several years. He died in Evanston, Ill., July 29, 1891.

Kidder, Frederic, an American author; born in New Ipswich, N. H., April 16, 1804; became an antiquarian of authority. He died in Melrose, Mass., Dec. 19, 1885.

Kidney, the secreting organs of the urine, two in number, situated in the lumbar region on each side of the spine which they approach on their upper extremities.

Kieff, or **Kiev,** one of the oldest towns of Russia, and ecclesiastically one of the most important; on the Dnieper. According to tradition it was founded before the Christian era. In 882 it was made the capital of the Russian principality, and remained so until 1169. Here in 988 Christianity was first preached in Russia by St. Vladimir. The town was captured and nearly destroyed by the Mongols in 1240 and it remained in their hands for 80 years. From 1320 to 1569 it was in the possession of Lithuania, then of Poland down to 1654, in which year it was annexed to Russia. The town is built on elevated ground. The most notable institution in the town is the Petchersk monastery, which is visited by more than 250,000 pilgrims annually. The cathedral of St. Sophia, erected in 1037, contains the tombs of the grand-dukes of Russia. Altogether Kieff has nearly 70 churches, many of them with gilded domes and pinnacles, which, seen from a distance, give the city a striking appearance. Pop. 247,-432.

Kiel, a town of the Prussian province of Schleswig-Holstein; 66 miles from Hamburg, situated on a bay of the Baltic. It is the headquarters of the German Baltic Sea navy. The old town, dating from before the 10th century, has been enlarged by the suburbs of Brunswick and Dusternbrook; the latter has beautiful promenades. Pop.

(1901) 107,071. Here was signed the treaty between Denmark, Sweden, and England, by which Sweden exchanged Pomerania for Norway.

Kilauea, an active volcano in Hawaii. It has an oval crater, 9 miles in circumference, with a lake of red and boiling lava at the bottom, over 1,000 feet below the crater's mouth.

Kilima-Njaro, an isolated mountain mass in East Africa, standing between Victoria Nyanza and the coast. The mass consists of two peaks, or rather craters, Kibo and Kimawenzi, connected by a broad saddle.

Kilkenny, the capital of the Irish county of that name. Several Parliaments were held at Kilkenny in the 14th century, and even down to Henry VIII. it was the residence of the lord-lieutenant. The fable of the "Kilkenny cats," which fought till nothing but the tails were left, was a satire on the contentions of Kilkenny and Irishtown in the 17th century about boundaries and rights.

Killarney, a small town in the county of Kerry, Ireland. Its importance depends on the crowds of tourists who come to visit the famous lakes.

Killarney, Lakes of, a series of three connected sheets of water. These famous lakes are situated in a basin in the midst of the mountains of Kerry.

Killdee, or **Killdeer,** a small American bird akin to the plover.

Killer Whale, one of the dolphins, from 18 to 30 feet long. The mouth has 11 or 12 powerful, conical, slightly recurved teeth in each jaw. Its fierceness and voracity constitute it the terror of the ocean.

Kilpatrick, Hugh Judson, an American military officer; born in Deckerton, N. J., Jan. 14, 1836. He was graduated at West Point in 1861. He served through the Civil War with credit. He was minister to Chile from 1865 to 1870, was reappointed in 1881. He died in Valparaiso Dec. 4, 1881.

Kimball, Richard Burleigh, an American author; born in Plainfield, N. H., Oct. 11, 1816; was graduated at Dartmouth College in 1834 and later admitted to the bar. He died in New York city Dec. 28, 1892.

Kimball, Sumner Increase, an American executive; born in Lebanon, Me., Sept. 2, 1834; was admitted to the bar in 1858; became chief of the Revenue Marine Service and of the Life-Saving Service in 1871, when the latter was made a separate bureau.

Kimberley, capital and chief town of Griqualand West, South Africa, the most important inland town of the Cape Colony. The rise of Kimberley has been rapid; and its situation is favorable to its further development. It owes its existence to the diamond mines, the working of which dates from July, 1871. The town was the center of important military operations in 1900, during the Boer war. Pop. (1900) est. 37,500.

Kin, the name applied to persons who stand related to another by family ties.

Kindergarten, a system of education for infants and young children devised by Frederick Frœbel (1782–1852), by whom, in conjunction with Ronge, it was first carried out at Hamburg in 1849. In 1858 Ronge published a work on the subject. Knowledge is imparted in an attractive form, chiefly by simple object lessons. The kindergarten system is becoming increasingly popular in the United States, and is now a part of the public schol system in all large cities.

Kinetograph, an apparatus for taking pictures of moving objects in their changing positions. It was invented by Edison.

Kineto-phonograph, an apparatus combining the principles of the kinetograph, the vitascope, and the phonograph, invented by Thomas A. Edison. The kineto-phonograph is such that a man can sit in his own parlor and see reproduced on a screen the forms of the players in an opera produced on a distant stage, and, as he sees their movements, he will hear the sound of their voices.

Kinetoscope, an apparatus invented by Thomas A. Edison for exhibiting the pictures taken by the kinetograph. The kinetoscope displays the pictures to the eye so rapidly that they all seem like one scene.

King, Charles, an American soldier and novelist; born in Albany, N. Y., Oct. 12, 1844. He resigned from

the United States army in 1879, becoming Professor of Military Science and Tactics at the University of Wisconsin. On the outbreak of the war with Spain he was commissioned a Brigadier-General of volunteers and went to the Philippines. He wrote a long series of novels treating of army and frontier life and people.

King, Clarence, an American geologist; born in Newport, R. I., Jan. 6, 1842; died in Arizona, Dec. 24, 1901.

King, Edward, an American writer; born in Middlefield, Mass., in 1848. He died in Brooklyn, N. Y., in 1896.

King, Grace Elizabeth, an American writer; born in Louisiana in 1858. She is one of the most prominent of Southern writers, and her books deal with Southern subjects.

King, Horatio, an American statesman; born in Paris, Me., June 21, 1811; learned the printer's trade; was appointed clerk in the postoffice department in Washington and became Postmaster-General; was the first man in public office to deny the power of a State to withdraw from the Union. He died in Washington, D. C., May 20, 1897.

King, Rufus, an American statesman; born in Scarboro, Me., March 24, 1755. He was a student at Harvard College in 1773, was admitted to the bar in 1778; elected to Congress; elected to the United States Senate three times and was appointed twice as minister to England. He was the Federalist candidate for the vice-presidency in 1804 and 1808. He died in Jamaica, Long Island, N. Y., April 29, 1827.

King, Thomas Star, an American clergyman; born in New York city, Dec. 17, 1824. During the Civil War he was the chief factor in raising the large sums of money which enabled the United States Sanitary Commission to carry on its work. He died March 4, 1864.

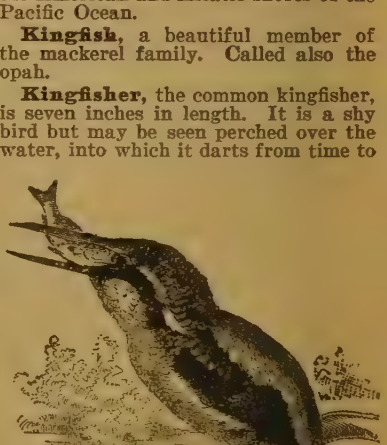
King, William Rufus, an American statesman; born in Sampson co., N. C., April 6, 1786. He was United States Senator from that State; minister to France; presiding officer in the United States Senate. In 1852 he was elected Vice-President of the United States, and died near Cahawba, Ala., April 18, 1853.

Kingbird, a name given to a shrike of the United States. Named from an erectile orange-colored crest on the head, which has been compared to a diadem; as also from the tyrannical character of the bird.

Kingcrab, the English name of the crabs belonging to the genus Limulus. They have their body commencing in front with a broad crescent-shaped carapace, with its convexity forward. Found in the seas and islands of both the American and Asiatic shores of the Pacific Ocean.

Kingfish, a beautiful member of the mackerel family. Called also the opah.

Kingfisher, the common kingfisher, is seven inches in length. It is a shy bird but may be seen perched over the water, into which it darts from time to



KINGFISHER OF EUROPE.

time, bringing back a fish or a water insect, which it kills with a few raps on its perch, and then devours. It bores a hole in the ground, makes a nest of fish bones, and lays six or seven eggs.

King of the Herrings, the popular name given to the Northern or Arctic chimæra, a fish also known in certain localities by the name of sea cat. It varies from three to four feet in length. The Southern chimæra is

distinguished by having a curious hoe-like appendage attached to the snout.

King Philip's War, a conflict between the New England colonists and the confederated Indian tribes, the Narragansetts, the Wampanoags, and the Nipmucks, carried on in 1675–1676. The Indians were led by Philip, a chief, who was killed at Mount Hope, R. I. Of the 90 towns of the colonists 12 were utterly destroyed, while more than 40 others suffered from fire and pillage. More than 1,000 men were killed and many women and children. The Indians were annihilated, King Philip being killed by treachery, and his family sold into slavery.

Kings, a name of two books of the Old Testament, relating the history of the Hebrew monarchy (united and divided) from the proclamations of Solomon, a little before the death of David, to the death of Jehoiachim — a period not less than 431, and perhaps more than 453 years. In Hebrew, the two Books of Kings were originally one volume: the Septuagint divided them, calling them the third and fourth of the Kingdoms, and the Vulgate the third and fourth of the Kings. Next, Bomberg separated the Hebrew book into two, after the Greek model. The division is clumsily made in the middle of Ahaziah's reign, and with no important break in the historic narrative. The work contemplates events from the prophetic, as the books of Chronicles do from the priestly, point of view. The former gives prominence to the history of the Ten Tribes, among which most of the prophets labored; the latter to that of the Two Tribes, among whom the priests found their home. The chronology is difficult, the Hebrew figures being represented by letters, a small change in the form of which would greatly alter results. It agrees, however, well with the Egyptian, and would not require much alteration to adjust it to the Assyrian chronology. Keen study of the Books of Kings is needful to the comprehension of the Old Testament prophetic writings, which in their turn reflect great light on the historic narratives in Kings. Recent archæological researches have afforded much confirmatory evidence in favor of the sacred narrative.

King's College, an institution adjoining Somerset House in London, founded by royal charter in 1828, and confirmed by act of Parliament in 1882.

INTERIOR OF KING'S COLLEGE.

King's Daughters and Sons, International Order of the, a society composed of men, women, and children of all religious denominations, whose object is to minister to the sick and needy wherever found, and to do good to all with whom they come in contact.

King's Evil, an old name for scrofula, which was believed to be cured by the royal touch.

Kingsley, Charles, an English author; born in Holne, near Dartmoor, Devonshire, June 13, 1819. Kingsley became Professor of Modern History at Cambridge in 1859, canon of Westminster in 1873. He died in Eversley, Hampshire, Jan. 23, 1875.

Kingsley, Henry, an English novelist; brother of Charles; born in Barnack, Northamptonshire, Jan. 2, 1830. A humorous strain in his writings contrasts forcibly with his brother's work. He died in Cuckfield, Sussex, May 24, 1876.

Kingsley, Mary H., an English author; born in 1850; daughter of Dr. George H. Kingsley, and niece of Canon Kingsley, traveled extensively in West Africa. She died in Simonstown, Cape Colony, June 5, 1900.

King's Mountain, an eminence in York co., S. C., 80 miles N. W. of Columbia, where a battle took place Oct. 7, 1780, between the Americans, under Levier, Shelby, Campbell, etc., and the British, under Ferguson. The latter were defeated with a loss of 456 killed and wounded, among whom was the commander, and 648 taken prisoners.

Kingston, the commercial capital of Jamaica; on the N. side of a landlocked harbor, the best in the island, and for its size one of the best in the world. It was founded in 1693, after the neighboring town of Port Royal had been destroyed by an earthquake. Pop. (1900) est. 50,000. In 1903 a fearful hurricane did great damage in Kingston.

Kingston, William Henry Giles, an English novelist; born in London, Feb. 28, 1814. He wrote almost though not quite exclusively for boys, producing 130 stories in 30 years; mostly of sea voyage and adventure. He died Aug. 2, 1880.

Kingston-on-Hull, an important and flourishing English river-port; in a low, level plain on the Humber; here 2 miles wide, and joined by the Hull. Pop. (1901) 238,562. The docks and basins, comprising an area of upward of 200 acres, have been constructed since 1774. Hull is chief entrepot for German and Scandinavian trade. There is also regular steam communication with New York and Boston.

King Vulture, or King of the Vultures, a large vulture which receives its name from the alleged fact that when it is pleased to make its appearance on a carcass on which other vultures are at work, they meekly stop proceedings and look on without eating till the king vulture has gorged itself to satiety. It is found in South America.

King William's War, a war waged by Great Britain and its colonies in America against France and its Indian allies in 1689–1697.

Kinkajou, a genus of carnivorous mammals. They have prehensile tails, with which they hang on to trees.

KINKAJOU.

They have some affinity to the lemurs, of which they are the partial representatives in the New World, where they occur in South America and in Mexico. The best known species is about a foot long, with a tail of 18 inches. It feeds upon fruit, insects, and birds.

Kinnikinic, or **Killikinic,** a mixture of the leaves of the sumac and willow which were dried and then finely pulverized, and a little tobacco added, and smoked by the North American Indians. The name is now given to a brand of manufactured tobacco.

Kioto, for over 1,000 years the capital of Japan; situated on a flat plain about 26 miles inland from Ozaka. A high range of hills to the E. separates this plain from Lake Biwa, and on these some of the finest temples connected with the city are built. At the N. end are situated in an enclosure the plain wooden buildings where the emperors of Japan dwelt so long in seclusion. Pop. (1900) 353,139.

Kiowan, a linguistic stock of North American Indians of which but one tribe, the Kiowa, remains. They lived near the head waters of the Upper Platte and were very aggressive.

Kip, Leonard, an American author; born in New York city, Sept. 13, 1826; was graduated at Trinity College in 1846; admitted to the bar and practised in Albany, N. Y.

Kip, William Ingraham, an American clergyman; born in New York city, Oct. 3, 1811; was graduated at Yale College in 1831, and later at

the General Theological Seminary; ordained in the Protestant Episcopal Church in 1835, and elected Bishop of California in 1857. He died in San Francisco, Cal., April 7, 1893.

Kipling, Rudyard, an English author; born in Bombay, Dec. 30, 1865. He was educated in England, and in 1882 went to India and joined the staff of the "Civil and Military Gazette," Lahore, for which paper his earlier tales were written. He depicts Anglo-Indian and military life. He has gained well-earned recognition as one of the leading authors of the age, and his books are read everywhere.

Kirby, William, a Canadian author; born in Kingston-upon-Hull, England, Oct. 3, 1817; removed to Canada in 1832; was educated in Cincinnati, O.; and in 1839 removed to Niagara, Ont., where he was editor of the "Mail" for 20 years.

Kirchhoff, Theodor, a German-American poet; born in Utersen, Jan. 8, 1828. Residing in the United States, he wrote in German and published in Germany.

Kirghiz, a nomadic Mongol-Tartar race, numbering in its various branches about 3,000,000, and inhabiting the steppes that extend from the lower Volga and the Caspian Sea in the W. to the Altai and Thian-Shan Mountains in the E., and from the Sea of Aral and the Syr Daria in the S. to the Tobol and Irtish on the N. The Kirghiz are a slow, sullen people. They dwell in a semi-circular tent, the wooden framework of which is covered with cloth or felt. They profess Mohammedanism.

Kirk, Ellen Warner Olney, an American author; born in Southington, Conn., Nov. 6, 1842; daughter of Jesse Olney; was educated in Stratford, Conn., and married John Foster Kirk in 1879.

Kirk, John Foster, an American author; born in Frederickton, N. B., March 22, 1824; received an academic education in Halifax, N. S., came to the United States in 1842 and settled in Boston. He removed to Philadelphia, in 1870, where he was editor of "Lippincott's Magazine."

Kirkland, Caroline Matilda Stansbury, an American author; born in New York city, Jan. 12, 1801; settled in Clinton, N. Y., where she married William Kirkland. She died in New York city, April 6, 1864.

Kirkland, John Thornton, an American clergyman; born in Herkimer, N. Y., Aug. 17, 1770; was graduated at Harvard College in 1789. He was ordained and installed minister in the New South (Unitarian) Church in 1794, remaining there until 1810, when he was elected president of Harvard College. He died in Boston, Mass., April 24, 1840.

Kirkland, Joseph, an American author; born in Geneva, N. Y., Jan. 7, 1830; received a common school education; removed to Chicago, Ill., in 1853; served in the Union army in the Civil War. After the war he engaged in mining, law practice, and later in literary work. He died in Chicago, Ill., April 29, 1894.

Kishineff, capital of the Russian province of Bessarabia, on a tributary of the Dniester. The old or lower town abuts upon the river; the new town stands on cliffs between 400 and 500 feet above the river. Kishineff is an important trading center for Bessarabian native products. It is the seat of an archbishop and has a theological seminary. Pop. 108,796. A cruel massacre of the Jews at this place in 1903 incited by the false report that Hebrews had murdered a Christian boy excited general indignation outside of Russia.

Kishon, a river in Palestine. Here Elijah slaughtered the priests of Baal, and Deborah and Barak defeated Sisera.

Kissingen, a watering-place of Bavaria, Germany, on the Saale, 30 miles N. of Wurzburg. The springs, five in number, and all saline, contain a large quantity of carbonic acid gas, and are used both internally and as baths.

Kitchener, Horatio Herbert, Viscount and Baron Kitchener of Khartum, a British military officer; eldest son of Lieutenant-Colonel H. H. Kitchener of the 13th Dragoons; born in June, 1850. He was educated at the Royal Military Academy, Woolwich. In 1874–1878 he was engaged on the survey of the Palestine under the auspices of the Palestine Exploration Fund Commit-

tee. In 1889 he was in command of mounted troops on the Sudan frontier. From 1888 till 1892 he was adjutant-general and second in command of the Egyptian army, and in 1892 he became Sirdar. He commanded the Anglo-Egyptian force which recovered Dongola for Egypt in 1896 Soon afterward he led another expeditionary force up the Nile valley. He was appointed governor-general and commander-in-chief of the Egyptian Sudan in 1899, but he resigned this post to accompany Lord Roberts to South Africa as chief of his staff in the war with the Boers. When Lord Roberts left South Africa toward the end of 1900 Lord Kitchener succeeded him as commander-in-chief. On the termination of the war in 1902, Lord Kitchener was created a viscount by King Edward, voted a grant of $250,000 by Parliament, promoted to general, awarded the decoration of the newly-established Order of Merit, and given an enthusiastic, popular and official reception on his return to London (July 12, 1902).

Kite, a name applied to very active long-winged, small-footed Falconidæ with rather short beaks, never truly notched like those of falcons.

Kite, a wind toy, controlled by a string. As a plaything the kite has been known since 400 B. C., and in its familiar form of two crossed sticks covered with paper, and balanced with a tail of string, on which are tied bits of cloth or paper, is a common sight. Franklin's experiments with electricity by means of a kite and key are familiar to everyone. In the United States weather bureau parakites are used for the purpose of recording the velocity of the wind, and the humidity and temperature at high altitudes, by the meteorograph. These can be obtained at a single observation and several hours before the effects are known in the lower atmosphere.

Kittatinny Mountains, sometimes called the Blue Mountains, an extensive range of mountains in the United States, which can be traced with but slight breaks from Ulster co., N. Y., through New Jersey, Pennsylvania, Maryland, Virginia, North Carolina and Georgia, into Alabama. They are over 800 miles in length, with an elevation of 800 to 2,500 feet.

Kitt's, St., or Saint Christopher, an island of the Leeward group, West Indies, belonging to Great Britain; area about 100 square miles; surface, diversified, a mountainous ridge extending through the center from N. to S., and at Mount Misery, rising to an elevation of 3,711 feet. Discovered by Columbus in 1493. Pop. (1901) 29,782.

Kiu-Kiang, a seaport of China, province Kiangsi, on the S. bank of the Yang-tse-kiang. It derives importance from its connection with the green-tea districts. The port was opened to foreign trade in 1862.

Kiu-Siu, one of the three principal islands of Japan.

Klamath, the appellation of several tribes of North American Indians formerly living along the Klamath river in Oregon and California; but now settled on a reservation at Klamath Lake.

Klamath Lake, a body of water in Oregon, at the E. base of the Cascade Range; overlaps the S. boundary of the State into California. The lake is about 44 miles long by 6 to 14 miles wide. It consists of two considerable bodies of water, connected by a narrow strait less than 2 miles wide. Klamath river is the outlet.

Klausthal, the chief mining town of the Northern Harz mountains, Germany; on a bleak plateau (1,985 feet), 25 miles N. E. of Gottingen. The ores mined are silver, lead, copper and zinc. The mines are the property of the Prussian government, and one is 2,000 feet below the level of the Baltic.

Kleenboc, a pigmy antelope found at the Cape of Good Hope. It is about a foot high at the shoulder, with small erect black horns, somewhat approaching at the tips.

Kleptomania, a supposed species of insanity manifesting itself in a desire to pilfer.

Klipspringer, a species of antelope, about equal in size to the chamois, and resembling it in habits, found in the highest mountain districts of South Africa.

Klondike, The, a river which enters the Yukon, the principal river of the Northwest Territory, Canada. The word is now applied to the re-

gion surrounding the Klondike river and its tributaries, and which lies in the Yukon district of the Territory, about midway of and just across the boundary line between Alaska and the British possessions.

As early as 1862 gold was discovered in Alaska, but no especial notice was taken of it. In 1880, Juneau, a Frenchman, with a companion started out from Sitka and traveling N. discovered gold in a creek which they named Gold creek, and at the mouth of this creek founded a town first called Harrisburg and later Juneau, and which soon became the center of mining supplies and a considerable fur trade. In 1886 a rich find was reported on Stewart river, in the Yukon district, and the following year an expedition was sent out by the Canadian government, headed by George M. Dawson, which explored the Upper Yukon and reported the existence of an abundance of gold. It was not till 1897 that the wonderful riches of the Klondike region were made known through George McCormick, who went from Illinois to Alaska in 1890. In 1897 he located at the mouth of the Klondike river for the purpose of salmon fishing, but this not proving profitable, he in company with some Indians moved up the river till they came to Bonanza creek which they began to explore for gold. They found large quantities of paying dust and located an extensive claim. Going to the Indian village from which they came for supplies, the news of their find quickly spread, other claims were forsaken, some of the prosperous towns were deserted and the miners from every direction poured into the newly found gold fields. Joseph Ladue, an old prospector and well-known miner, was one of the first to explore the country and his statements gave an impetus to the steadily increasing stream of gold hunters. Clarence Berry, a miner, returned to Juneau in the fall of 1897 on his way home to San Francisco with $130,000 in dust which had been thawed and sluiced out of 30 box lengths of soil in a few weeks' time. And this is but one of many similar experiences, which aroused the wildest excitement all over the United States, with which the Californian "gold fever" of 1849 stands no comparison. All through the fall and winter of 1897 the mad rush for the Klondike region continued. The almost unknown towns of Juneau, Dyea and Skaguay, sprang into sudden prominence and rapidly added to their population, while Dawson City in which the first hut was built in September, 1896, six months later had 500 houses, and in 1903 had grown to a prosperous city with handsome residences, hotels, banks, schools, churches and many modern improvements.

This section of country is not far removed from the Arctic regions. For seven months of the year intense cold prevails, varied by furious snow storms which begin in September and occur at intervals till May. The ground is frozen most of the year.

Klopsch, Louis, American journalist and proprietor of the "Christian Herald"; born in Germany in 1852. As proprietor of the "Christian Herald" he has initiated and personally superintended some of the greatest international charities of modern times. His activity in that direction has embraced parts of the United States in seasons of distress, and Armenia, India, Cuba, Porto Rico, Norway, Russia, China and other regions. With the generous aid of readers of the "Christian Herald" he is now supporting and educating fifty-four hundred orphans in India. He was honored with an official appointment by President McKinley in 1898, and has been received in personal audience by the emperor and empress of Russia, Queen Alexandra, of Great Britain, the king of Denmark and the king and queen of Sweden.

Knapp, Samuel Lorenzo, an American author; born in Newburyport, Mass., Jan. 19, 1783; was graduated at Dartmouth College in 1804; became a lawyer; and during the War of 1812 was commander on the coast defenses. He was editor of the Boston "Gazette," the "Boston Monthly Magazine" and "The Library of American History"; and in 1826 established the "National Republican." He died in Hopkinton, Mass., July 8, 1838.

Knapsack, a soldier's or tourist's case or wrapper for clothes, etc., to be carried on the back during a march; a tourist's or traveler's satchel.

Knee, the articulation between the femur or thigh bone, above, and the tibia or shin bone, below. A third bone, the patella, or knee cap, also enters into the structure of this joint anteriorly.

Kneeland, Samuel, an American naturalist; born in Boston, Mass., Aug. 1, 1821. In 1866 he became Professor of Zoölogy and Physiology in the Massachusetts Institute of Technology. He was a member of numerous scientific societies, and contributed many articles to medical literature, etc.

Kneipp, Sebastian, a German clergyman; born in Stefansried, May 17, 1821. He became a Roman Catholic priest in 1852. His attention was early drawn to the "water cure" which he advocated for years. This method was chiefly walking barefoot in dew-moistened grass. He died in Worishafen, June 17, 1897.

Kneph, the ram-headed god of ancient Egypt, called also Amen-ra, and by the Greeks, Ammon.

Knickerbocker, Herman Jansen, of Friesland, Holland; one of the earliest settlers of New York. A descendant, Johannes (1749–1827), was an intimate friend of Washington Irving, who immortalized the name by his "History of New York by Diedrich Knickerbocker" (1809).

Knight, a man admitted to a certain degree of military rank, with certain ceremonies or religious rites, the candidate for knighthood being called upon to prepare himself by fasting and prayers, watching his arms alone all night in a chapel, and by receiving the accolade. Also one who holds a certain dignity conferred by the sovereign or his representative, and entitling the possessor to the title of Sir prefixed to his name. The dignity differs from that of a baronet in not being hereditary. Wives of knights are legally entitled to the designation of Dame, but are more commonly addressed as Lady.

Knight, Jonathan, an American physician; born in Norwalk, Conn., Sept. 4, 1789. He was graduated at Yale College in 1808; studied at the medical school of the University of Pennsylvania 1811–1813. He obtained in 1862 the establishment of a United States military hospital at New Haven. He died in New Haven, Conn., Aug. 25, 1864.

Knighthood, Order of, a duly organized and constituted order or body of knights. They are of two kinds, the first consisting of associations or fraternities, possessing property and rights of their own, as independent bodies; the second, honorary associations established by sovereigns.

Knights and Ladies of Honor, a fraternal beneficiary society founded in the United States in 1877. In 1900 it reported a membership of 53,000; benefits disbursed since organization, $19,000,000.

Knights of Honor, a fraternal benevolent society founded in the United States in 1873. Membership reported at 62,173; benefits disbursed since organization, $78,094,864.

Knights of Labor, a national labor organization in the United States, founded in Philadelphia in 1869. The first general assembly was held in 1878; from this year the numbers rapidly increased, and the oaths of secrecy formerly administered were abolished soon after. In 1883 there were 53,000 members, in 1886 there were 730,000; in 1886 and 1887, however, the system of "boycotting" having been introduced, the business of the country was greatly disturbed, and since then the strength of the organization has declined. In 1903 its claimed membership aggregated only 200,000.

Knights of Pythias, a secret fraternal order organized at Washington, D. C., in 1864, and numbering in the United States in 1901 over 492,000 members, with an endowment rank of over 57,401 members, carrying an endowment of over $100,000,000.

Knights of the Maccabees, a benevolent association, founded in 1881, and numbering in the United States about 300,000.

Knights Templar, a degree or order of modern Freemasonry ranking in dignity above the Blue Lodge and the Royal Arch Chapter. The orders conferred in a commandery of Knights Templar are Red Cross, Knight Templar, and Knight of Malta. The total membership in the United States is about 118,500.

Knitting, the art of knitting consists in the construction of a looped fabric in which for the first row a succession of loops are cast on or preferably knitted on to a needle, and in succeeding rows each loop is passed through the loop of each succeeding row. It differs distinctly from braiding, netting and weaving, which is, as here mentioned, perhaps the order of invention, knitting being centuries later than either of the others.

Knitting Machine, an apparatus for mechanically knitting jerseys, stockings, and other knitted goods.

Knort, a name given in Lapland to a species of sandfly, which is a greater pest than the mosquito. Its bite is painless, but on the second day swells to a large size, and burns exceedingly.

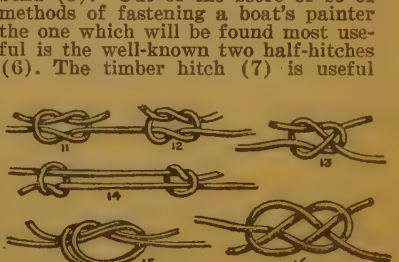
Knot, a nautical synonym for the geographical mile. The geographical mile is one-sixtieth of a mean degree of a meridian on the earth, and is therefore 6,080 feet or 1.1515 statute miles. The name is derived from the knots tied on a ship's log line.

Knot, a wading bird. It breeds within the Arctic circle, from which it migrates in autumn to the Eastern Hemisphere, as far even as the Cape and Australia.

Knot Grass, a prostrate plant, or weed, with narrow leaves, and white, pink, crimson, or green inconspicuous flowers, clustered in the axils of various leaves. It is common in fields and waste places.

Knots and **Splices** include all the various methods of tying, fastening, and joining ropes or cords. From 150 to 200 different kinds of knots may be enumerated, mostly used on shipboard, though almost all occupations using ropes or cordage have special kinds of knots adapted to their different requirements. While the great majority of these are purely technical, there are a few so generally useful in the everyday occurrences of life that they may be shortly described. The figures represent the various knots before they are drawn taut, the better to show the method of tying. Generally, the requirements of a useful knot may be stated to be that it should neither "slip" nor "jam"—i. e, that, while it holds without danger of slipping while the strain is on it, when slackened it should be easily untied again. The simplest knot is the common one tied on the end of a thread or cord to prevent it slipping. By passing a loop instead of the end of the cord the common slip knot (fig. 1) is formed; and a useful fixed loop is got by tying a simple knot, or the "figure of 8 knot" (2), on the loop of a cord. One of the

simplest and most useful running knots for a small cord is made by means of two simple knots (3). The most secure method of fastening a line to, say, a bucket is the standing bowline (4); and a running bowline is formed by passing the end a through the loop b, thus making a running loop. Another good knot to make fast a bucket is the anchor bend (5). Out of the score or so of methods of fastening a boat's painter the one which will be found most useful is the well-known two half-hitches (6). The timber hitch (7) is useful

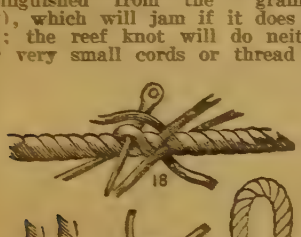


for attaching a line to a spar or a stone, and the clove hitch (8) is invaluable for many purposes. It is very simple and cannot slip.

A simple method of fastening a

rope to a hook is the blackwall hitch (9), where the strain on the main rope jams the end so tightly against the hook that it cannot slip. There are many methods for shortening a rope temporarily, one of them being the sheepshank, the simplest form of which is shown in fig. 10.

Of the methods for uniting the ends of two cords the simplest and one of the most secure is the common reef knot (11), which must be carefully distinguished from the "granny" (12), which will jam if it does not slip; the reef knot will do neither. For very small cords or thread the



best knot is the weaver's (13). The fisherman's knot is a very useful one for anglers, and is formed by a simple knot in each cord being slipped over the other (14); when drawn taut it is very secure, and it is easily separated by pulling the short ends. A useful method of uniting large ropes is shown in figure 15: tie a simple knot on the end of one rope and interlace the end of the other, and draw taut. This tie may also be made with the figure of 8 knot. For very large ropes the carrick bend (16) is the simplest and most secure. The bowline bend is formed by looping two bowline knots into each other. For attaching a small line to a thick rope the becket hitch (17) is very useful.

"Splicing" is the process employed to join two ropes when it is not advisable to use a knot. The three chief varieties of the splice are the short splice, the long splice, and the eye splice. The short splice is made by unlaying the ends of two ropes for a short distance and fitting them closer together: then, by the help of a marlinspike, the ends are laced over and under the strands of the opposite rope, as shown in figure 18. When each strand has been passed through once, half of it is cut away and the remainder passed through again; half of the remainder being also cut away, it is passed a third time, and, when all the strands are so treated, they are hauled taut and cut close. This reducing the thickness of the strands tapers off the splice. The long splice is employed when the rope is used to run through a block, as it does not thicken it. The ends of the two ropes are unlaid for a much longer distance than for the short splice, and similarly placed together. Then one strand is taken and further unwound for a considerable distance, and its vacant place filled up with the corresponding strand of the other rope, and the ends fastened as in the short splice. Other two of the strands are similarly spliced in the opposite direction, and the remaining two fastened at the original joining place. The eye splice is, as the term implies, used to form an eye, or round a dead eye, and is shown finished in figure 19.

To prevent a rope fraying at the ends a variety of methods are employed, the simplest being to serve or whip the end with small cord. Other methods are by interlacing the ends, one of which, the single wall, is shown at figure 20, the ends afterward being drawn taut and cut short.

Knownothing, a member of a secret political association in the United States, organized for the purpose of obtaining the repeal of the naturalization law, and of the law which permitted others than native Americans to hold office. It started in 1853 and lasted two or three years. A society was formed in 1855 in opposition to the above, called Know-somethings. Both bodies were absorbed into the two parties, Democrats and Republicans, at the presidential election in 1856.

Knox, Henry, an American military officer: born in Boston, July 25, 1750. For his signal service at Yorktown he was made Major-General. In 1785 he was appointed by Congress Secretary of War. He was the valued friend of Washington and rendered him great assistance in disbanding the

army and in managing Indian affairs. He resigned from the Cabinet in 1795, retiring to private life. He died in Thomaston, Me., Oct. 25, 1806.

Knox, John, a Scotch religious reformer; born in Giffordsgate, near Haddington, Scotland, in 1505. A pioneer of Puritanism; prisoner of war, for 19 months confined in the French galleys; friend of Calvin and Beza; a preacher of sermons that moved their hearers to demolish convents; with a price on his head, yet never faltering; arrested for treason, an armed "congregation" at his heels; burned in effigy, for years a dictator — he spent his life forwarding the Reformation in Scotland. His great work distinguished in Scottish prose, was his "History of the Reformation of Religion within the Realm of Scotland" (1584). He died in Edinburgh, Nov. 24, 1572.

Knox, John Jay, an American financier; born in Knoxboro, N. Y., March 19, 1828. He was graduated at Hamilton College in 1849. A bill which he proposed was passed with a few modifications, and is known as the Coinage Act of 1873. In 1872 he was appointed comptroller of the currency; resigned in 1884, and became president of the National Bank of the Republic, New York. He died in New York city, Feb. 9, 1892.

Knox, Philander Chase, an American lawyer; born in Brownsville, Pa., May 4, 1853; was graduated at Mount Union College, Alliance, O., in 1872; settled in Pittsburg, Pa.; and was admitted to the bar there in 1875. On April 5, 1901, he was appointed Attorney-General of the United States by President McKinley to succeed John W. Griggs (resigned).

Knox, Thomas Wallace, an American author, war correspondent and traveler; born in Pembroke, N. H., June 26, 1835. He made a journey around the world as a newspaper correspondent in 1886. He wrote many popular books for the young. He died in New York city in 1896.

Knox College, a coeducational, non-sectarian institution in Galesburg, Ill.; founded in 1837.

Koala, a marsupial mammal, allied to the kangaroo, etc.; is confined to the Australian province, where it is known as the native sloth, native boar, or native monkey.

Kobbe, William A., an American military officer; born in New York city, May 10, 1840; was educated in New York city, and in Wiesbaden, Freiberg, and Klausthal, Germany; and was graduated at the United States Artillery School in 1873. He served in the Civil War as a private in the 7th New York regiment and rose to the rank of captain; and in the Spanish-American War as major of the 3rd United States artillery to Brigadier-General, U. S. A. In January, 1900, he was given command of an expedition to the S. extremity of Luzon, and in March following was appointed military governor of the Province of Albay (Luzon), and Catanduanes Islands, and temporary governor of the islands of Samar and Leyti; and soon afterward opened the hemp ports to commerce. On the reorganization of the regular army in February, 1901, he was appointed one of the new Brigadier-Generals.

Kobe, a port of Central Japan; on the W. shore of the Gulf of Ozaka, about 20 miles S. of that city. Pop. 215,780.

Koch, Robert, a German bacteriologist; born in Klausthal, in the Harz Mountains, Dec. 11, 1843. He studied medicine at Gottingen, receiving his doctor's degree in 1866 at the age of 23. In 1879 he had begun his investigations of the causes of consumption, and on March 24, 1882, he announced the discovery of the tubercle bacillus before the Physiological Society of Berlin. In 1883 he was made a privy-councilor and placed in charge of the German expedition sent to Egypt and India to investigate the causes of cholera. This journey resulted in the discovery of the comma bacillus, or cholera germ, in May, 1884. He was rewarded with a gift of $25,000 by the government, and imperial titles and honors were showered upon him. In 1885 he was appointed a professor in the University of Berlin, the new chair of hygiene being created for him, and director of the Hygienic Institute. He subsequently returned to the investigation of tubercular diseases, but years of patient research were required before he was able to announce to the world

his remedy for consumption and its allied diseases.

Kock, Charles Paul de, a French novelist and playwright; born in Passy, France, May 21, 1794. He wrote also popular songs. He may be called a Balzac on a lower and narrower stage. He died in Paris, Aug. 29, 1871.

Koehler, Sylvester Rosa, an American prose-writer; born in Leipsic, Germany, Feb. 17, 1837; came to the United States in 1849; was the editor of the "American Art Review" while it existed, and is the author of "Art Education and Art Patronage in the United States" (1882), etc. He also wrote a history of color painting.

Kohl, Johann Georg, a German traveler and author; born in Bremen, April 28, 1808. In 1854 he came to the United States, where he spent four years, and prepared a series of maps for the government. Returning to Germany he became city librarian at Bremen, and there died Oct. 28, 1878.

Kohlrabi, the turnip-stemmed cabbage, a variety of cabbage having a turnip-like protuberance on the stem just above the ground, which is the most edible part of the plant. It is used in the United States for feeding cattle.

Kohlsaat, Herman Henry, an American publisher. He was educated in the public schools of Chicago and Galena, Ill. He acquired a fortune in the bakery business and other enterprises. In 1891 he became part owner of the "Inter-Ocean" of Chicago, and in 1894 owner of the Chicago "Times-Herald," now "The Record-Herald."

Kohut, Alexander, a Jewish-American theologian; born in Felegyhazza, Hungary, May 19, 1842. He was one of the greatest Orientalists and Semitic scholars of his age. He was a member of the Hungarian Parliament; founded the Jewish Theological Seminary in New York (1886), in which he was professor (1886–1894). His chief work was "Complete Dictionary of the Talmud" (9 vols. 1878–1892). In later years he devoted himself to Arabic-Hebrew literature as recently discovered in the MS. fragments from Yemen. He died in New York, May 25, 1894.

Kola, a place of only 770 inhabitants, but worthy of notice as the extreme N. town of European Russia. It is situated on the peninsula of Kola, is the capital of Russian Lapland, and has a capacious harbor.

Kola Nut, the product of a tree whose habitat is West Africa. The tree is from 20 to 30 feet high, has smooth cylindrical branches, and bears a profusion of purplish flowers. The flower yields a large brownish-yellow fruit, which enfolds in the same follicle the red and white seeds that are inaptly called kola nuts. An analysis of the kola nut shows that it contains nearly all the constituents of coffee, tea, and cocoa, and other constituents not possessed by them. It has a larger proportion of caffeine than coffee or tea, and more theobromine than cocoa.

Koluschan, a linguistic stock of North American Indians. They comprise some 10 or 12 tribes, numbering about 6,000, nearly all of whom live in Alaska.

Kongo Free State, a territory in Africa. The area is stated at 900,000 square miles; pop. (1901) 30,000,000. The Kongo Free State is governed by an administrative bureau at Brussels, under the direct supervision of the King of the Belgians; also by an administrator on the Kongo who has his headquarters at Boma, 60 miles from the sea, on the right bank of the river. All imports are free, and only such export duties are levied as are necessary to carry on the work of administration. It has a coinage and postal service and has entered into the Postal Union.

The inhabitants of the Kongo basin belong to what has been termed the Bantu race. They are a happy, inoffensive people, not so dark as the Fan or Ethiopian. Split up into numberless tribal communities, they can offer but slight resistance to the advance of civilization; and as they are born traders, they take very readily to commerce. The climate of the Kongo State is tropical, the average temperature ranging between 78° and 82°. The principal products are ivory, palm oil, palm kernels, india-rubber, various gums, ground nuts,

amwood, beeswax, orchilla; also cofee, tobacco, hill rice, maize, and sorhum. Tropical fruits, such as banas, pineapples, and mangos, bound. The total value of the spe ial exports of the independent state roper vary in value from 5,000,000 o 8,000,000 francs; the general exorts from 8,000,000 to about 15,000,000 francs. In 1889 the King of Belium bequeathed his rights in the tate to Belgium; and in 1890 Belgium eserved the right of annexing the tate. Charges of the most frightful arbarity in the treatment of natives ave been made, on apparently subtantial evidence, against the Belgian ulers of the Free State. The natives, t is alleged, are held in the worst orm of slavery, and tortured, killed, nd surrendered to cannibals to be evoured, if they fail to supply the ubber demanded from them.

Konig, Freidrich, a German inentor; born in Eisleben, April 17, 774. He became a printer, and at he same time eagerly prosecuted cientific studies. In 1810 he invented nd patented a press which printed ike the hand press by two flat plates. A second patent was obtained in 1811 or a cylinder press. This improved achine was adopted in 1814 by the roprietors of the London "Times." n the latter part of his life, Konig vas a partner in a company for mak ng steam printing presses at Oberzell. ear Wurzburg, in Bavaria. He died an. 17, 1833.

Koodoo, a beautiful antelope, slate ray, with transverse white markings. The males with spirally twisted horns, bout four feet long; the females, ornless; height about five feet at he shoulders. Extends from South Africa to Abyssinia.

Koran, the religious code of the Mohammedans, written in Arabic by Mohammed. In size it is about equal o the New Testament. It is divided nto 114 surahs or chapters, each of which begins with the phrase "In the ame of God." According to the Mohammedan doctrine, it was written rom the beginning in golden rays on gigantic tablet in heaven, and was ommunicated to the prophet on the ight of Al-Khadr, in the sacred nonth of Rhamadan by the angel Gariel precisely as it stands, verse for verse, chapter for chapter, written on parchment made of the skin of the ram which Abraham sacrificed in the place of his son Isaac. The volume was ornamented with precious stones, gold, and silver, from paradise.

According to other traditions Mohammed is said to have drawn up the Koran with the assistance of a Persian Jew, Rabbi Warada Ibn Nawsal, and a Nestorian monk, the abbot of the convent of Addol Kaisi, at Bosra, in Syria; but nothing certain is known respecting these two persons, though it appears beyond a doubt that he was acquainted with the religions of the Jews and Christians. His knowledge appears to have been derived, however, more from oral intercourse with adherents of these creeds than from an extensive acquaintance with their sacred books. Of the sacred writings of the Jews he cites only the Pentateuch and the Psalms. In chapter xxi. he represents the Almighty as saying, "I have promised in the books of Moses and in the Psalms that my virtuous servants on earth shall have the earth for their inheritance." Of the New Testament he cites nothing whatever. Not only was he acquainted with the religious systems of the Jews and Christians, but also, with those of the Sabæans and Magians, from all of which he seems to have drawn materials which he incorporated into a system, after the idea of establishing a religion in his country, where numberless sects of Pagans, Jews, Christians, Sabæans and Magians existed, had risen in his mind.

The language of the Koran is considered the purest Arabic, and contains such charms of style and poetic beauties that it remains inimitable. Its moral precepts are pure. A man who should observe them strictly would lead a virtuous life. It inculcates obedience to God, charity, mildness, abstinence from spirituous liquors, and toleration, and ascribes particular merit to death in the cause of religion. "From the Atlantic to the Ganges," says Gibbons, "The Koran is acknowledged as the fundamental code, not only of theology, but of civil and criminal jurisprudence; and the laws which regulate the actions and the property of mankind are guarded by the infallible and immutable sanc-

tion of the will of God." The Koran is regarded with great reverence in Mohammedan countries. It is daily read once through in the mosques of the Sultan and the adjoining chapels. Mohammedans never touch it without previous purification and never carry it below the girdle. Texts taken from it are frequently written on doors, walls of rooms, banners, etc. The commentaries upon it are exceedingly numerous.

Korea, an empire in Asia comprising the peninsula lying between the Yellow Sea and the Sea of Japan, and separated by the Strait of Korea from the Japanese Islands. It has a coast line of about 1,740 miles, and a total area of about 90,000 square miles. Native statistics show a pop. of 5,340,901. Other estimates put it at double. Seoul, the capital, has a pop. of 201,000.

The climate is healthy, bracing in the N., but colder in winter and hotter in summer than in corresponding European latitudes. Among the products are rice, wheat, beans, cotton, hemp, maize, millet, sesame, perilla. Ginseng grows wild in the Kange Mountains, and is also much cultivated about the Kai-song, the duties upon it, notwithstanding much smuggling, yielding about $500,000 annually. The domestic animals are few. The cattle are excellent (the bull being the usual beast of burden), the ponies very small but hardy, fowls good, pigs inferior. Iron ores of excellent quality are mined; and there are copper mines in several places. The output of silver is very small; in 1886 the customs returns showed the value of gold exported that year to be $503,296. Three-fourths of the trade is with Japan, and over a fifth with China. The government is a hereditary and practically absolute monarchy, and carried on through three ministers, besides whom are ministers of six departments. Caste is very powerful, and no office of even only local importance is held by others than a noble. In some districts the people live in a very squalid condition, and mud hovels thatched with straw are the usual houses everywhere; but beggars are rare, and absolute distress is seldom met with.

The earliest records of Korea go back to 1122 B. C., when Ki-tze wi 5,000 Chinese colonists brought Korea Chinese arts and politics. Dow to modern times Korea has remain perfectly secluded. Japan was t first to effect a footing in Korea 1876, when a treaty was conclud between the two countries. Kor followed this up by treaties with Chi and the United States in 1882; wi Germany and Great Britain, 188 with Italy and Russia, 1884; a with France, 1886. The three por opened to foreign trade are Chemulp Fusan, and Gen-san. The new polic has led to discontent; and there w an insurrection in 1884. A rumo that Russia was about to establish protectorate over Korea in 1888 w officially denied. The suzerainty China had been acknowledged Korea from early times, but Japa protested, and this was one of t alleged causes of the Japanese-Ch nese War of 1894. China renounce her claim in 1895 and Japan began display an active interest in Kore Russia thereupon asserted her right a voice in Korean affairs, and by 19 the rival interests of the two powe caused a straining of their relation Japan's fear was that Russia wou absorb the Korean empire, while Ru sia discountenanced Japan's policy control. Korea has a prominent pa in the existing antagonism betwe Russia and Japan.

Koren, John, an American stati tician; born in Decorah, Ia., Mar 3, 1861. He was engaged in religio work for some time; became a sp cial expert abroad for the Unit States Department of Labor in 189 was sent to Europe to study the Got enburg system in 1893; and was member of the committee to invest gate the liquor problems in 189 1899.

Kosciusko, or **Kosciuszko, Ta deusz,** a Polish patriot; born in L thuania, Feb. 12, 1746. He chose t career of arms, and was trained France. In 1777 an unhappy love a fair drove him to the United State where he fought for the colonists ar advanced to the rank of Brigadie General. He returned to Poland 1786. When Russia attacked h country in 1792, Kosciusko held a p sition at Dubienka for five days wi

only 4,000 men against 18,000 Russians. In spite of this the pusillanimous King Stanislaus submitted to the Empress Katherine, whereupon Kosciusko resigned his command and retired to Leipsic. After the second partition of Poland he put himself at the head of the national movement in Cracow and was appointed dictator and commander-in-chief (1794). His defeat of a greatly superior force of Russians at Raclawice was followed by a rising of the Poles in Warsaw. He established a provisional government and took the field against the Prussians, but, defeated, fell back upon Warsaw and maintained himself there valiantly till the approach of two new Russian armies induced him to march to meet them. He was overpowered by superior numbers in the battle of Maciejowice, Oct. 10, 1794; and, covered with wounds, he himself fell into the hands of his enemies. Two years later the Emperor Paul restored him to liberty. He finally settled at Solothur in Switzerland in 1816, and died on Oct. 15, 1817, by the fall of his horse over a precipice.

Kossuth, Louis, the leader of the Hungarian revolution; born in Monok in Hungary in 1802. His family was of noble rank, but his parents were poor. He studied law at the Protestant college of Sarospatak, and practised for a time. In 1832 he commenced his political career at the diet of Presburg as the deputy of absent magnates, and as editor of a journal. He advocated the emancipation of the peasants, the abolition of all feudal rights and privileges, the freedom of the press, etc., and openly demanded an independent government for Hungary and constitutional government in the Austrian hereditary territories. On the resignation of the ministry in September, 1848, he found himself at the head of the Committee of National Defense, and prosecuted with extraordinary energy the measures necessary for carrying on the war. As a reply to an imperial decree, dated March 4, abolishing the Hungarian constitution, he induced the National Assembly at Debreczin, in April, 1849, to declare that the Hapsburg dynasty had forfeited the throne of Hungary.

He was now appointed provisional governor of Hungary. Finding that the dissensions between himself and Gogei were damaging the national cause, he resigned his dictatorship in favor of the latter. After the defeat at Temesvar on Aug. 9, 1849, he found himself compelled to flee into Turkey, where he was made a prisoner. In September, 1851, he was liberated by the influence of England and the United States, and sailed in an American frigate to England, where he was received with every demonstration of public respect and sympathy. In December of the same year he landed in the United States, where he met with a most enthusiastic reception.

He returned in June, 1852, to England, and there he chiefly resided till Sardinia and France prepared for war with Austria; when, on condition of something definite being done for Hungarian independence, he proposed to Napoleon to arrange a Hungarian rising against Austria. The peace of Villafranca bitterly disappointed Kossuth, but did not disheartened him. He made two other attempts to bring about a rising against Austrian rule in his native country, but without final success. When in 1867 Deak effected the reconciliation of Hungary with the dynasty Kossuth retired from active political life. He afterward lived mostly in Turin, and, though never tired of denouncing the political and economical alliance between Hungary and Austria, abstained from conspiring or agitating against it; but he refused to avail himself of the general amnesty (1867) and to return to his native land to take the oath of fealty to the dynasty he had once dethroned. In virtue of an act passed in 1879 he lost his Hungarian citizenship early in 1890, he having resided abroad for 10 years after the passing of the said act without taking the prescribed steps. He died in Turin, March 21, 1894.

Kotow, the ceremony of prostration, with striking of the forehead on the ground nine times, performed before the Emperor of China. The British envoy, Lord Amherst, in 1816, refused to perform the degrading ceremony, and the point was finally conceded by the Chinese in the treaty of 1857, and has not been revived.

Kotzebue, August Friedrich Ferdinand von, a German dramatist; born in Weimar, May 3, 1761. Of about 200 tragedies, comedies, dramas, and farces, many of them very popular at the time of their production, the best known now are: "Misanthropy and Repentance" (1789), reproduced in Paris as late as 1862, and famous in the United States and England in Sheridan's adaptation entitled "The Stranger." During much of his life he was in Russian service; and was once banished to Siberia by the Emperor Paul, who, however, recalled him a year later through being moved by something in one of his plays, gave him a rich estate, and made him aulic councilor and director of the court theater at St. Petersburg. He was assassinated in Germany as a Russian spy, by a student, in Mannheim, March 23, 1819.

Krakatoa, a volcanic island in the Strait of Sunda, between Java and Sumatra; was in 1883 the scene of one of the most tremendous volcanic disturbances on record. The crater walls fell in, together with a part of the ocean bed, carrying with it two-thirds of the island (total area before the eruption 13 square miles), and creating two small islands, which subsequently disappeared. At the same time a gigantic ocean wave inundated the adjoining coasts of Java and Sumatra, causing a loss of 36,500 lives and the destruction of 300 villages, and then careered round the entire globe. The noise of the eruption was heard for a distance of 2,000 and even 3,000 miles. The occurrence likewise set up a series of concentric atmospheric waves, which traveled at least three times around the earth. The dust and other finely-comminuted debris cast up by the explosion gave rise during three years or more to weird sun-glows of wondrous beauty, those seen in North America in November, 1883, being especially grand.

Krapotkin, Peter Alexievich, Prince, a Russian scientist; born in Moscow, Dec. 9, 1842. He was in the Russian army for a time and made extensive journeys in Siberia and Manchuria. Charged with anarchist affiliations, he was imprisoned two years in Russia, escaped, founded the anarchist paper "La Revolte" in Geneva (1879), and after being expelled from Switzerland in 1881, commenced a crusade against the Russian government in the English and French press. He lectured in various parts of the world; is the author of various works on nihilistic subjects; and his contributions on modern scientific subjects to the leading reviews have been numerous and interesting.

Krasinski, Sigismund, a Polish poet; born in Paris, France, Feb. 19, 1812. On account of his health he lived in various European capitals outside Poland. He became one of Poland's three greatest poets, exerting wide influence on her literature. He died in Paris, Feb. 23, 1859.

Krauskopf, Joseph, an American clergyman; born in Ostrov, Prussia, Jan. 21, 1858. He came to the United States in 1872; was graduated at the University of Cincinnati in 1883; made rabbi by Hebrew Union College; and in 1887 became rabbi of Reform Congregation Keneseth Israel in Philadelphia. He became a leader in the reformed Jewish movement, and published "Evolution and Judaism," and many volumes of lectures.

Krehbiel, Henry Edward, an American musical critic; born in Ann Arbor, Mich., March 10, 1854. He was musical critic successively on the Cincinnati "Gazette" and the New York "Tribune."

Krefeld, one of the important manufacturing towns of Germany; 12 miles N. W. of Dusseldorf, noted for its silk and velvet manufactures. Pop. (1900) 106,887.

Kremlin, in Russia, the citadel of a town or city; specially applied to the ancient citadel of Moscow.

Kremnitz, Mite, a German writer; born in Greifswald, Jan. 4, 1852. She has written books in collaboration with "Carmen Sylva," Queen of Rumania, and also independently.

Kretzer, Max, a German novelist; born in Posen, May 7, 1854. He is a powerful realist. Several of his works are on Socialism.

Kriegspiel, a German game in which by means of leaden pieces representing various sized bodies of men moved by two officers acting as gen-

erals, under certain rules, on a map exhibiting all the natural features of a country, the art of war is exemplified and set forth.

Kris, a dagger or poniard, the universal weapon of the inhabitants of the Malayan Archipelago. It is made of many different forms, short or long, straight or crooked. The hilt and scabbard are often much ornamented. Men of all ranks wear this weapon, and those of high rank when in full dress sometimes carry three or four. In Java women sometimes wear it.

Kroeger, Adolph Ernst, an American writer; born in Schwabstedt, Schleswig, in 1837. During the Civil War he served on Fremont's staff. By translations of the works of Fichte, Kant, and Leibnitz he largely contributed to a better understanding of German literature in the United States. He died in St. Louis, Mo., 1882.

Kroeh, Charles Frederick, an American educator; born in Germany in 1846. After 1871 he was Professor of Languages at Stevens Institute of Technology. He wrote language textbooks.

Kroo, or **Kru,** a native race of Africa, much employed in doing rough work on vessels trading on the Liberia coast. Their territory extends about 70 miles along the W. coast; they are a stout, brawny race, very industrious.

Kruger, Stephanus Johannes Paulus, a Boer statesman; born near Colesberg, Cape Colony, Oct. 10, 1825. He entered on the more active portion of his public career when he was chosen a member of the Executive Council of the Transvaal in 1872, President Burgess being then at the head of affairs. Ten years later he was elected president for the first time. In 1883 he was reëlected for five years, and in 1888, after a contest with General Joubert, he was again chosen president, being reëlected in 1893 and 1898. On the breaking out of dissensions between the Uitlanders and the Boers in 1896, and the raid of Dr. Jameson in aid of the former, vigorous measures were adopted by President Kruger, resulting in the capture of Jameson and his 700 men and the suppression of the rebellion. For this the president received the congratulations of the German emperor. In 1899 his policy led to war with England. The Boer reverses led to his departure for Europe, where he established himself in Holland. In the summer of 1901 he proposed visiting the United States for the purpose of inducing the government to give its moral support to the Boers, but on being informed that neither President McKinley nor after him President Roosevelt would receive him, excepting in a strictly unofficial manner, the project was abandoned.

Krupp, Alfred, a German metal founder and steel gun manufacturer; born in Essen, Prussia, in 1812. His father founded the manufactory. Alfred discovered the method of casting steel in very large masses. In 1851 he sent to the London Exhibition a block of steel weighing 4,500 pounds, and was able to cast steel in one mass weighing more than 100,000 pounds. He manufactured a great variety of articles for use in various peaceful industries, but his world-wide fame was made by the production of the enormous steel siege guns with which the Germans did such terrible execution when they invested Paris. Krupp made his first cannon in 1846. He died July 14, 1887. His son, Frederick Alfred Krupp, head of the family, died suddenly, Nov. 22, 1902, after heinous charges had been published against his moral character. The German Emperor spoke in defense of Krupp's memory at the funeral.

Krupp Steel, a name for one of the most important products of the Essen works in Prussia.

Kubla Khan, the founder of the 20th Chinese dynasty, that of the Mongols or Yen. He was the grandson of Genghis Khan, and was proclaimed Emperor of the Mongols in 1260, in succession to his brother, Mangou Khan. He reigned, at first, only in Mongolia and the countries conquered by Genghis Khan; but he invaded China in 1267; captured the Chinese emperor in 1279, and thus overthrew the Song dynasty, which had ruled for 319 years. He extended his conquests over Tibet, Pegu, Cochin China, and formed the greatest empire known in history, embracing the whole of Asia and part of Europe, from the Dnieper to Japan. He patronized letters, and encouraged agriculture, industry, and commerce. Marco Polo passed 17 years at his court. He died in 1294.

Kubelik, Jan, a Bohemian violinist; born in 1879; began his career as a public performer in 1887, when he played before the Prague Philharmonic. Subsequently he made a brief but unusually successful tour on the Continent and in England, and in December, 1901, came to the United States, where he was enthusiastically received.

Kugler, Franz Theodor, a German historian; born in Stettin, Jan. 19, 1808. He was appointed a Professor of Fine Arts in the University of Berlin in 1833, and subsequently became a member of the Academy of Berlin. Died in Berlin, March 18, 1858.

Kuhn, Adalbert, a German philologist; born in 1812. He made important contributions to comparative philology, and is regarded as the founder of the science of comparative Indo-Germanic mythology. He died in 1881.

Ku-Klux Klan, a secret American organization which, said to have been founded in 1866 at Pulaski, Tenn., originally for purposes of amusement only, soon developed into an association of "regulators," and became notorious for the deeds of violence performed in its name. The outrages and murders ended in the calling out of troops and the formal disbandment of the society in March of the latter year.

Kulanapan, a linguistic stock of North American Indians, also called Pomo and Mendocino Indians. They were once a powerful people and occupied a large section of Northwestern California, but now only a few scattered individuals survive.

Kunersdorf, a village in Prussia; 4 miles E. of Frankfort-on-the-Oder; was the scene of one of the most remarkable battles of the Seven Years' War, fought Aug. 12, 1759, in which Frederick the Great with 48,000 men, after gaining a half victory, was completely defeated by the allied Russians and Austrians, 78,000 men strong. The Prussian loss was 18,500 men, with almost all their artillery and baggage, while their opponents lost 16,000 men.

Kunstmann, Friedrich, a German historian; born in Nuremburg, Jan. 4, 1811. He published "The Discovery of America from the Most Ancient Sources" (1859), with an atlas giving facsimile copies of early maps.

Kunz, George Frederick, an American gem expert; born in New York city, Sept. 29, 1856; was educated at Cooper Union, receiving an honorary A. M. at Columbia University. He became a special agent of the United States Geological Survey in 1883; was in charge of the department of mines at the Omaha, Atlanta, World's Columbian and Paris Exposions; was president of the New York Mineralogical Club and vice-president of the American Institute of Mining Engineers, etc. He contributed over 100 papers on gems, minerals, etc., to magazines and reviews, and is the author of "Gems and Precious Stones of North America."

Kurdistan, an extensive geographical, though not political, region of Asia. Kurdistan belongs to both the Turkish and Persian monarchies, chiefly to the former, and contains about 50,000 square miles, with a population estimated at more than 2,250,000. The country embraces the mountainous chains that abut upon the Armenian on the S., on the Iranian plateau on the E. Thus its surface ranges from 5,000 up to 15,000 feet in altitude. Between the mountain chains, the summits of which are generally densely wooded, lie grassy plateaus. The principal products of the soil and of native industry are wool, butter, sheep, gum, gall-nuts, hides, raisins, and tobacco.

The bulk of the inhabitants are Kurds, a race partly nomad and pastoral, and partly settled and agricultural. The Kurds, who speak a language called Kermanji, derived from an old Persian dialect, have from time immemorial stood on the same level of civilization. They live under chiefs of their own, but are nominally subject to the Porte and the Shah of Persia respectively.

Kuria-Muria Islands, a group of five islands; 21 miles from the S. E. coast of Arabia; area, 21 square miles. The ancient Insulæ Zenobii, they were ceded to England in 1854 by the Imam of Muscat. On one of them is a signaling station of the Eastern Telegraphs Company. Guano of an inferior quality is obtained from them.

Kuriles, a chain of islands in the North Pacific, extending S. W. to N. E. from Japan to Kamchatka, and be-

onging to Japan; area, about 5,000 square miles. The whole chain is of volcanic origin, and there are many active volcanoes, one of which is from 12,000 to 15,000 feet high. The population is very scanty.

Kurnberger, Ferdinand, a German novelist; born in Vienna, Austria, July 3, 1821. His works are witty, highly poetical, and written in a pithy style. His first novel, "Tired of America" (1856), was his most popular one; it described the American civilization of that period as merely material. He died in Munich, Oct. 14, 1879.

Kuropatkin, Alexei Nicolaievitch, a Russian statesman and soldier; born in 1849. He was educated at the Cadet Corps School and the Pavloskoe Military College in St. Petersburg. For a time he devoted himself to writing on military topics. His story of the Balkan crusade is pronounced by military experts to be a war classic. His works on Algiers and Kashgar won for him the gold medal of the Imperial Geographical Society. In the Turkish war (1877–1878) he distinguished himself, obtaining the rank of colonel, and has risen to the rank of general and War Minister, and holds a predominant influence in the military policy of Russia.

Kuro Sivo, or **Japan Current,** the Gulf Stream of the Pacific; is the offspring of the great equatorial current, flows past Formosa, Japan, the Kuriles, the Aleutian Islands, and thence bends S. to California. It is much inferior to the Gulf Stream, of the Atlantic, both in volume and high temperature.

Kutchin, the name given to a collection of tribes of the Athabascan stock of North American Indians who live on and near the Yukon river in Alaska, and in the N. W. part of British North America. They are sometimes called Loucheux and Quarrelers. They number something less than 2,000.

Kutusoff, Michael Ilarionovich, a Russian field marshal; born Sept. 16, 1745; entered the Russian army at the age of 16, and in 1784 became Major-General. He distinguished himself in the Turkish War, and was appointed in 1805 to the command of the first army corps against the French. He was second in command of the allied army under the Emperor Alexander at Austerlitz. In 1811–1812 he commanded the Russian army in the war against the Turks. In 1812, notwithstanding his advanced age, he succeeded Barclay de Tolly as commander-in-chief of the army against the French, fought Napoleon obstinately at Borodino, and obtained a great victory over Davout and Ney at Smolensk. Tolstoi (in "War and Peace") calls him "the genius of Russia and of the war." He died in Bunzlau, April 8, 1813.

Kwalhiokwa, a tribe of North American Indians of the Athabascan stock, formerly living on Willopah river, Washington, near the Lower Chinook Indians. They are often confounded with the Owilapsh or Whilpah.

Kwapa, or **Quapaw,** a tribe of the Dhegiha division of North American Indians. They give themselves the name of Ukaqpa, meaning "those who went down stream." Their total number is about 232; some of them live in the Indian Territory, and others are in Oklahoma. The Kwapa were called Akansa by the Illinois, from which comes the name Arkansas.

Kyrle, John, an English philanthropist; born in 1664. He was styled the Man of Ross by Pope, having resided for the greater part of his life in the small town of Ross, Herefordshire. He spent his time and fortune in building churches and hospitals, on an income amounting to $2,500 a year. Pope celebrated his praises in his "Moral Essays," and Warton said that he deserved to be celebrated beyond any of the heroes of Pindar. He died in 1724.

L, in the English alphabet, the 12th letter and the 8th consonant; one of those called by some grammarians liquids, because, like vowels, they may be pronounced for any length of time.

Laager, in South African campaigning, a camp made by a ring of ox wagons set close together, the spaces beneath being filled up with the baggage of the company.

Laaland, or **Lolland,** a Danish island in the Baltic, at the S. entrance to the Great Belt, 36 miles long by 9 to 15 broad; area, 445 square miles; pop. about 65,000.

Laban, a rich herdsman of Mesopotamia, son of Bethuel and grandson of Nahor, Abraham's brother (Gen. xxiv: 28–31). His character is shown in the gladness with which he gave his sister Rebekah in marriage to the only son of his rich uncle Abraham, and in his deceitful and exacting treatment of Jacob, his nephew and son-in-law. When the prosperity of the one family and the jealousy of the other rendered peace impossible, Jacob secretly departed to go to Canaan. Laban pursued him, but returned home after making a treaty of peace.

Labedoyere, Charles Angelique Huchet, Comte de, a French military officer; born in Paris in 1786. The campaigns of 1812 and 1813 gave him new opportunities of distinguishing himself. Having been severely wounded in 1813, he was not in active service at Napoleon's abdication, but returned to it under the Bourbons, and was with his regiment near Vizelle when Bonaparte returned from Elba. He immediately joined him. After the battle of Waterloo, where he fought with great courage, he hurried t Paris. On the capitulation of Pari he followed the army behind the Loire Having determined to emigrate, he re turned once more to Paris in order t take leave of his family, but was im mediately apprehended and brought be fore a court-martial. His defense wa unavailing, and he was sentenced to b shot (Aug. 15, 1815). On appeal th sentence was confirmed, and on Aug 19, was carried into execution.

Lablache, Luigi, a noted opera singer; born in Naples, Italy, Dec. 6 1794. His first engagement as a singe was at the San Carlino Theater a Naples in 1812. From 1830 to 185 he sang nearly every winter at Paris and annually made visits to London St. Petersburg, and various cities i Germany. His voice, a deep bass, ha hardly ever been equaled either i volume or quality. He died in Naples Jan. 23, 1858.

Labor, in political economy, may be defined as effort for the satisfying of human needs. It is one of the three leading factors in production, the othe two being land (or natural objects) and capital; and it is more funda mental than capital, which originally is the result of labor.

Labor, American Federation of, an association composed of abou 80 national labor organizations, em bracing about 7,000 local unions. I was organized at Columbus, O., in 1886, and in 1900 comprised 1,017 local unions, with a total membership of about 850,000, and embracing more than 70 different trades.

Labor Bureau, a department connected with the United States Commission of Emigration, having its headquarters at New York.

Labor Day, a legal holiday, by State enactment only, observed on the first Monday in September in the principal manufacturing and industrial States, when ordinary labor is suspended, and labor organizations parade the streets.

Laboratory, a building or workshop designed for investigation and experiment in chemistry, physics, etc. It may be for special research and analyses, or for quite general work.

Laborde, Alexandre Louis Joseph, Count de, a French writer of travels; born in Paris, Sept. 17, 1773. He was a soldier, accompanying Napoleon to Spain and Austria, and a politician. He died in Paris, Oct. 24, 1842.

Laborde, Leon, Marquis de, a French miscellaneous writer, son of Alexandre; born in Paris, June 15, 1807. In the revolution of 1830 he was General Lafayette's adjutant, was afterward in the diplomatic service. He died in Paris, March 25, 1869.

Labori, Fernand, a French lawyer; born in Reims, France, April 18, 1860; took part in the Dreyfus appeal. He was the author of an "Encyclopedia of French Law," published in 12 volumes.

Labouchere, Henry, an English journalist and politician; born in London in 1831. He was in the diplomatic service in the United States. He established "The London Truth."

Laboulaye, Edouard Rene Lefebvre de, a French jurist and historian; born in Paris, Jan. 18, 1811. He won distinction by several treatises on Roman and French law. He held up the American constitution to the admiration of his countrymen. After the fall of the empire he was elected for Paris in 1871 and became a life senator in 1875. His greatest work outside of the field of jurisprudence is a "Political History of the United States, 1620–1789." He died in Paris, May 25, 1883.

Labrador, the N. E. peninsula of the North American continent, lying between Hudson Bay and the Gulf of St. Lawrence, extending from lat. 49° to 63° N., and from lon. 55° to about 79° W.; greatest length from the Strait of Belle Isle to its N. cape, Wolstenholme, 1,100 miles; area, 420,000 square miles; pop. about 6,000 collected chiefly at the Moravian missionary stations. The Atlantic coast is stern and precipitous (1,000 to 4,000 feet high), entirely destitute of vegetation, deeply indented with narrow fjords, and fringed with chains of rocky islands. The inner parts have been but very imperfectly explored; the greater part consists of a plateau, about 2,000 feet above sea-level, and mostly covered with fine forest trees, firs, birches, etc. Numerous lakes, including Mistassini, also exist inland, and, connecting with the rivers, afford in summer continuous waterways for great distances. The only inhabitants of this interior plateau are Cree Indians, nomads. There are numerous rivers, 200 to 300 miles long and 2 and 3 miles wide at their mouths, flowing toward the Atlantic and Hudson Bay. The Grand Falls on Grand river are believed to be among the largest (calculated to be little short of 2,000 feet in height) in the world. Of the mineral resources little is known; but iron and labradorite are certainly abundant. The climate on the coast is very rigorous, owing mainly to the ice-laden Arctic current which washes the shores. The mean annual temperature at the missionary stations varies from 22° to 28°. The winter is dry, bracing, and frosty. Since 1809 the coast region has been annexed for administrative purposes to Newfoundland. The remaining parts of the peninsula are designated the Northeast Territory. The coasts of Labrador were probably visited by the Norsemen about the year 1000; they were again sighted by Cabot in 1498. In 1500 a Portuguese navigator, Cortereal, seems to have visited it and to have given it its name, which means "laborers' land."

Labradorite (named from the locality whence first obtained), in mineralogy, a member of the felspar group, in which the protoxide bases are lime and soda, the sesquioxide base being alumnia. The colored varieties are sometimes used in jewelry. Called also Labrador felspar.

Labrador Tea, a name given to two species of heath. They grow in America N. of Pennsylvania, and in the N. of Europe. They are low shrubs with alternate entire leaves clothed un-

derneath with rusty wool. The fragrant crushed leaves are used by the natives of Labrador as a substitute for tea.

La Bruyere, Jean de, a famous French moralist and satirist; born in Paris, August, 1645. His great work, on which his reputation rests, "The Characters of Theophrastus, Translated from the Greek, with the Characters or Manners of this Century" (1688), was a cloak for the keenest and most sagacious observations on the characters and manners of the court. It has been translated into well-nigh every modern language. He died in Versailles, May 10, 1696.

Labuan, an island six miles from the N. W. coast of Borneo; area, 30¼ square miles; pop. est. 5,853, mostly Malays and Chinese, with 30 Europeans. Besides possessing a good harbor (Victoria), it has an extensive bed of excellent coal. The island became British in 1846.

Laburnum, an ornamental shrub. It is a native of the mountainous regions of Southern Europe, and is much planted in pleasure grounds on account of its glossy leaves, and its beautiful yellow flowers like those of the broom, which come forth in great abundance in May and June. The laburnum often grows to a height of from 20 to 30 feet.

Labyrinth, with the ancients, a more or less subterranean building containing such a number of chambers and galleries, one running into the other, as to make it very difficult to find the way through it.

LABYRINTHODON.

Labyrinthodon, a genus of fossil amphibians whose remains are found in the Carboniferous, Permian, and Trias formations, those of the Trias being found in England, India, and Africa. They were allied to the crocodile and to the frog, and were from 10 to 12 feet long. The name is derived from the labyrinthine structure of a section of the tooth when seen under the microscope.

La Caille, Nicolas Louis de, a French mathematician and astronomer; born in Rumigny, France, March 15, 1713. In 1750 he visited the Cape of Good Hope for the purpose of studying the stars of the Southern Hemisphere, and he determined the position of 9,000 previously unknown. The table of eclipses for 1,800 years was calculated by La Caille. He died in Paris, France, March 21, 1762.

Lacandones, an Indian tribe living in Northern Guatemala and neighboring portions of Mexico. They were at one time numerous and powerful and waged war against the whites till about 1750. There are now but a few thousand left, of whom a part are friendly to the white people, though retaining their native customs, while the remainder refuse all intercourse with the other inhabitants.

Laccadives, a group of 14 coral islands in the Arabian Sea; about 200 miles W. of the Malabar coast; area, 744 square miles; pop. 14,440. They are low and flat and all but two are comparatively barren. The group was discovered by Vasco da Gama in 1499.

Lace, an ornamental fabric of threads so interwoven, twisted, braided, and knotted as to form definite patterns of contrasted open and close structure. The origin of lace is unknown, but it is of great antiquity.

Lacepede, Bernard de la Ville, Count de, a French naturalist; born in Agen, France, Dec. 26, 1756. He was appointed curator of natural history in the Royal Gardens at Paris in 1785; at the Revolution, Professor of Natural History in the Jardin des Plantes and in the university; senator in 1799; minister of state in 1809; peer of France in 1814. Besides continuing Buffon's "Natural History" at Buffon's own request, he wrote "Natural History of Fishes," etc. He died of smallpox in Epinay, near St. Denis, Oct. 6, 1825.

Lacerta ("The Lizard"), one of the eight constellations added to the original ones by Hevelius in his "Introduction to Astronomy" in 1690, or

rather one of the eight which have survived, for he added 10 in all. It is not a conspicuous one, the brightest star being of the fourth magnitude.

Lachaise, Francis d'Aix de, a French Jesuit; born in Aix, Loire, France, Aug. 25, 1624. He was a provincial of his order when Louis XIV. selected him for his confessor on the death of Father Ferrier in 1675. His position was one of great difficulty, owing to the different parties at the court, and the strife between Jansenists and Jesuits. He died in Paris, Jan. 20, 1709.

La Chaussee, Pierre Claude Nivelle de, a French dramatist, founder of the so-called "mixed" or "weeping" comedy; born in Paris in 1692. His comedy "The False Antipathy" (1734) was the first French pathetic comedy. Of 18 dramas written by him, among the best are "Fashionable Prejudice," directed against the idea, then widespread, that a man of rank can have no love for his wife, and "School of Friendship." He died in Paris, March 14, 1754.

Lachesis, in classical mythology, one of the three Fates. Also the name of Planetoid 120. In zoölogy, (1) A genus of rattlesnakes or pitvipers. (2) A doubtful subgenus of mollusks.

Lackey Moth, a species of moth. The fore wings are either ocher-yellow, with two brown transverse stripes, or brownish-red with transverse yellow ones; the hind wings paler and without stripes.

Laclos, Pierre Ambroise Francois Choderlos de, a French novelist; born in Amiens in 1741. He is best known by his "Dangerous Connections." He died in Taranto, Italy, Nov. 5, 1803.

La Condamine, Charles Marie de, a French scientist; born in Paris, France, Jan. 28, 1701. He is best known as having with Bouger and Godin measured an arc of the meridian on the plain of Quito, Ecuador. The expedition lasted nine years (1735–1744). On his way home he descended the Amazon, being the first scientist to do so, and the first man to publish accurate maps of the river. He died in Paris, Feb. 4, 1774.

Laconic, a term applied to the style adopted by the Spartans, or Lacedæmonians (whose country was called Laconia), who endeavored to confine themselves to a sententious brevity in speaking and writing.

Lacordaire, Jean Baptiste Henri Dominique, one of the greatest of modern pulpit orators; born in Recey-sur-Ource, Cote-d'Or, France, May 12, 1802. Having graduated in law he repaired in 1821 to Paris, where he practised as a probationary advocate. In 1824, to the surprise of those who knew that his theological system was dictated by Voltaire, he entered the Seminary of Saint-Sulpice, with the purpose of devoting himself to the Church, and in 1827 received holy orders. He distinguished himself greatly as a preacher, and was offered the post of vicar-general by the Bishop of New York. The revolution of 1830 alone prevented him from leaving for the United States. In 1860 he was elected into the Academie Francaise, in succession to De Tocqueville. Of his numerous works his "Lettres a un jeune Homme sur la Vie Chretienne" (1858 and 1860) have been much admired.

La Crosse, a Canadian field game played with a ball and a long stick bent at the top like a bishop's crozier. Strings of deer-skin are stretched diagonally across the hooked portion of the crosse in different directions, forming a network — not so tightly as in a battledore or tennis racquet, nor so loosely as to form a bag. Only one ball is employed, made of india-rubber, and eight or nine inches in circumference. Posts or poles about six feet high, with a small flag at the top of each, complete the equipment. The players are usually 12 on each side, but their number, as well as the distance of the goals apart, is nearly optional. The object of the game is for one side to drive the ball through their opponents' goal. The ball must not be touched with the hand or foot, but is scooped up from the ground with the bent end of the crosse, on which it is carried horizontally, while the player runs toward one of the goals, trying to dodge his antagonists. If it seems prudent, he pitches the ball off his crosse toward one of his own side who may be in a better position to carry it toward the goal. The players must not strike, trip up, or grasp one another,

nor must anyone lay hold of the crosse of another; a player may strike the ball off an opponent's crosse with his own crosse, and not by any other means. The game is played to a limited extent in the United States.

Lacteals, an anatomical term. The lacteals and lymphatics properly constitute one system of vessels which convey a fluid or fluids from various organs of the body to the veins near their terminations in the heart. The fluid which these vessels convey is milky after a full meal, and called chyle, though, during intervals of fasting, it is a yellowish lymph, as in the lymphatics. The lacteal vessels commence on the surface of the intestines, and unite with one another in the mesentery, and after leaving the mesenteric glands discharge their contents for the nourishment of the body into the receptaculum chyli, in front of the second lumbar vertebra.

Lactic Acid, in chemistry, a monobasic, diatomic acid, discovered by Scheele in sour milk, and first recognized as a distinct acid by Berzelius. It occurs in small quantity in the animal organism, especially in the gastric juice, and, under certain circumstances, is formed in the fermentation of some sugars.

Lactic Ferment, a minute organism which, under the microscope, is seen to consist of small elliptical cells, generally detached, but sometimes occurring in chains of two or three. It is developed in milk when it is allowed to stand for some time, and is the cause of the milk becoming sour, the sugar of the milk changing into lactic acid. It is also developed when cheese is added to a solution of sugar, and kept at a temperature of 35° to 40°.

Lactometer, or **Galactometer,** a species of hydrometer, graduated to show the comparative specific gravity and consequent value of different samples of milk. The instrument is a good evidence of the specific gravity of milk, and the specific gravity is a probable, but not positive, evidence of quality. Taken in connection with the per cent. glass, which measures the per cent. of cream that rises, it is nearly a positive indicator of pure and watered milk. One form of the lactometer for ascertaining the amount of cream in milk consists of a tube with a funnel mouth for convenience in charging it, and having the upper portion graduated. The tube is about a foot in length, and, being filled, the cream is allowed to rise when its richness is determined by the number of graduated spaces occupied by the cream.

Lactoscope, an instrument, invented by Donne of Paris, for assisting in determining the quality of milk by ascertaining its relative opacity.

Lactose, in chemistry, a sugar isomeric with dextrose, formed from milk sugar by treatment with ferments or dilute acids.

Lactucarium, the brown viscid juice of the common garden lettuce, obtained by incision from the leaves and flowering stems, and dried in the air. It is a mixture of various substances, including lactucone, lactucin, lactucic acid, mannite, albumin, etc. Lactucarium is hypnotic, antispasmodic and sedative.

Lacuna, in human anatomy, open spaces, prolonged into canaliculi or delicate tubes finer than the smallest capillary vessels, occurring in bone.

Ladd, George Trumbull, an American educator; born in Painesville, O., Jan. 19, 1842. He was educated at Western Reserve College and Andover Theological Seminary; was pastor of Spring Street Congregational Church, Milwaukee, Wis., in 1871–1879; and Professor of Philosophy at Bowdoin College in 1879–1881, when he assumed the chair of philosophy at Yale. His works include "Principles of Church Polity"; "Doctrines of Sacred Scripture," and "Elements of Physiological Psychology." He lectured on philosophy in India 1899–1890, and was decorated by the Emperor of Japan.

Ladislas, the name of six kings of Hungary: Ladislaus I., King of Hungary; born in 1041, succeeded in 1079; died in 1095, and was canonized for his piety by Celestin III., 1198. Ladislas II., called the Infant, succeeded and died the same year, 1200. Ladislas III. succeeded 1272, assassinated, after a life of debauchery and a disgraceful reign, 1290. Ladislas IV., the same as Uladislas V., King of Poland, succeeded his father in the latter dignity, 1435, and was elected by the

Hungarians, 1440, killed in battle by the Sultan Amurath, 1444. Ladislas V. succeeded in the 5th year of his age, 1444, and died suddenly, 1458. Ladislas VI., son of Casimir IV., King of Poland, and called, according to the Polish form of his name, Uladislas II., became King of Bohemia 1471, and King of Hungary 1490. Died in 1516.

Ladislas, Ladislaus, or **Lancelot,** King of Naples, called the Liberal and Victorious; born in 1376. He succeeded his father, Charles Duras, in 1386. He was previously Count of Provence and King of Hungary. On the death of his father he was opposed by Louis II., Duke of Anjou, which occasioned some bloody wars. Pope John XXIII. at first espoused the cause of Louis, but afterward took the part of Ladislas, who, however, marched against Rome, and having taken it, turned his arms on the Florentines, whom he compelled to sue for peace, in 1413. He died in Naples, it is suspected of poison, in 1414.

Ladoga Lake, the largest lake of Europe; a short distance N. of St. Petersburg, in Russia, being crossed by the frontier line between that country and Finland; 129 miles in length, 78 in breadth; area, 6,998 square miles. The S. and E. shores are low and marshy; but on the N. W. the coast is broken, and rises into cliffs. There, too, are numerous islands. The lake receives the waters of Lake Onega and Lake Ilmen in Russia and of Lake Saima and other lakes in Finland; and its own waters are carried off to the Gulf of Finland by the Neva.

Ladrones, or **Marianne Islands,** a chain of 17 islands in the North Pacific, E. of the Philippines and the Caroline Islands; area, about 500 square miles. They were discovered by Magellan in 1521, who gave them the name of "Ladrones," it is said, from the character of their inhabitants, the word meaning "thieves." Guam is the principal island and embraces nearly one-half of the entire area of the group. On June 20, 1898, Captain Glass, of the United States cruiser "Charleston" took possession of the islands in the name of the United States, and by the peace treaty signed at Paris, Dec. 18, 1898, it was provided that the island of Guam should be ceded to the United States. The remainder of the islands, together with the Carolines, passed from the possession of Spain into that of Germany, Oct. 1, 1899, in consideration of the payment of about $4,187,500.

Ladybird, a genus of pretty little beetles, generally of a brilliant red or yellow color, with black, red, white, or yellow spots. The form is nearly hemispherical, the under surface flat, the thorax and head small, the antennæ and legs short.

Lady Fern, a species with lanceolate, pinnate fronds, the pinnæ again deeply pinnatifid. Also a beautiful fern with large, membranous, oblong, lanceolate, twice or thrice pinnate fronds, with close-set pinnules.

Ladysmith, a town in Natal, 180 miles from Durban. It has no commercial importance but is of strategic value as a military base. Again in 1899–1900 it was a center of military operations, a siege by the Boers being gallantly withstood by a British garrison under General White.

LADY'S SLIPPER.

Lady's Slipper, a genus of plants. The genus is remarkable for the large inflated lip of the corolla. Several

very beautiful species are natives of the colder parts of North America.

Laennec, Rene Theodore Hyacinthe, a distinguished French physician; born in Quimper, Lower Brittany, France, Feb. 17, 1781. In 1816 he became chief physician to the Hospital Necker, where he soon after made the discovery of "mediate" auscultation, i. e., of the use of the Stethoscope. In 1819 he published his "Treatise on Mediate Auscultation," which has undoubtedly produced a greater effect, in so far as the advance of diagnosis is concerned, than any other single book. His treatise had not long appeared when indications of consumption were discovered in his own chest by means of the art of his own invention, and after a few years of delicate health, during which he continued to practise in Paris, he retired to die in his native province, Aug. 13, 1826.

Laertes, according to Homer, a King of Ithaca, and the supposed father of Ulysses.

Lætare Sunday, in the Roman Catholic Church, the 4th Sunday in Lent, called also Mid-Lent. From this name the characteristic of the services of the day is joyousness, and the music of the organ, which throughout the rest of Lent is suspended, is on this day resumed.

La Farge, John, an American artist; born in New York city, March 31, 1835. He studied under Couture in Paris, and with William M. Hunt; became a National Academician in 1869; and a member of the Society of American Artists in 1877. He was the designer of the "battle window" in Memorial Hall, Harvard University. In 1869 he was made president of the Society of American Artists. He published a volume of "Lectures on Art," and "An Artist's Letters from Japan."

La Fayette, Madame de, the reformer of French romance-writing; born in Paris, France, March 16, 1634. Her father was a marshal and governor of Havre. She married the Comte de La Fayette in 1655. She had a genuine command of passion and knowledge of character, and in her "Princess of Cleves" gave a vivid and faithful picture of the court-life of her day. A new edition of her "Complete Works" appeared in 1882. She died in Paris in May, 1693.

Lafayette, Marie Jean Paul Roch Yves Gilbert Motier, Marquis de, a famous French military officer and statesman; born in the castle of Chavagnac, Auvergne, France, Sept. 6, 1757. He belonged to an ancient family; came to his estates at 13; married three years later; entered the army, and sailed, in spite of the opposition of the court, for America in 1777, to offer his sword to the colonists in their struggle for independence. He became an intimate and admiring friend of Washington, who gave him the command of a division after his conduct at the battle of Brandywine. The treaty between the insurgents and France at once led to war between France and England, and Lafayette returned to his country early in 1779. Six months later he again crossed the Atlantic, was charged with the defense of Virginia, and had his share in the battle of Yorktown, which practically closed the war. On a third visit to North America in 1784, after the conclusion of peace, he was received in such a manner that his tour was a continual triumph.

Lafayette had imbibed liberal principles in the freer air of America, and was eager for reforms in his native country. He was called to the Assembly of Notables in 1787, and sat in its successor, the Assembly of the States General, and in that which grew out of it, the famous National Assembly of 1789. He took a prominent part in its proceedings, and laid on its table, July 9, 1789, a Declaration of Independence. He was soon appointed to the chief command of the armed citizens, whereupon he formed the National Guard and gave it the tri-color or cockade.

After the adoption of the constitution of 1790 he retired to his estate of Lagrange till he received the command of the army of Ardennes, with which he won the first victories at Philippeville, Maubeuge, and Florennes. But the hatred of the Jacobins increased, and at length Lafayette, who had gone from the army to Paris, publicly to denounce the Jacobin Club, finding on his return to the camp that he could not persuade his soldiers to march to Paris to save the constitution, rode

over into the neutral territory of Liege. He was seized by the Austrians and imprisoned at Olmutz till Bonaparte obtained his liberation in 1797; but he took no part in public affairs during the ascendency of Bonaparte. He sat in the Chamber of Deputies from 1818 to 1824 as one of the extreme Left, and from 1825 to 1830 he was again a leader of the opposition. In 1830 he took an active part in the revolution and commanded the National Guards. In 1824 he revisited the United States, by invitation of Congress, which voted him a grant of $200,000 and a township of land. He died in Paris, May 20, 1834. In 1898 the public school children in the United States contributed in small sums the funds for a statue of Lafayette, which was erected in Paris.

Lafayette College, an educational institution in Easton, Pa.; founded in 1832 under the auspices of the Presbyterian Church.

Laffan, William M., publisher of the "New York Sun," N. Y.; born in Dublin, Ireland, Jan. 22, 1848; married, 1872, Georgiana, daughter of Judge Daniel Ratcliffe, of Baltimore; has been an editor and publisher from his youth, and a writer and high authority on fine arts, architecture, ceramics, etc., and collector of Oriental porcelains and bronzes. Is author of works on "American Wood Engraving," and "Chinese Porcelain."

Lafitte, Jean, an American buccaneer; born in France, 1780. He is first authentically known as the chief of an organized and formidable body of desperadoes having their headquarters on an island in Barataria Bay, about 40 miles W. of the delta of the Mississippi, in the Gulf of Mexico. Committing various piratical acts, the United States government sent out an expedition against them in 1814, which captured their stronghold and all vessels lying there at the time, but failed in making prisoners, Lafitte and his companions escaping to the swamps and bayous of the mainland. At the commencement of the war with the United States in 1814, Lafitte was offered by the British government $30,000, and a naval commission, to cooperate in their expedition against New Orleans. This offer he spurned, and communicating its nature to Governor Claiborne of Louisiana, he offered the services of himself and men against the enemy, on the sole condition of pardon for their past offenses. His offer was accepted, and Lafitte kept his word by rendering efficient aid to the Americans in the battle of Jan. 8, 1815. Lafitte's after career, and the time of his death, remain an unsolved mystery. He is the hero of a romance by the American novelist, J. H. Ingraham.

La Fontaine, Jean de, one of the classics of French literature; born in Chateau-Thierry, Champagne, France, July 8, 1621. The last 35 years of his life were spent in Paris. The 12 books of his "Fables" were published in equal parts in 1668 and 1678. It is through them that La Fontaine is universally known. During the last two years of his life the religious sentiments of his early youth revived, and he performed severe penances for such of his works as strict morality could not approve of. He was admitted to the French Academy in 1684, conjointly with his friend Boileau, and died in Paris, April 13, 1695.

Lagan, or **Ligan,** in maritime law, goods found at such a distance from shore that it is uncertain what coast they would be carried to, and therefore belonging to the finder.

Lager, or **Lager Beer.** The word "lager," in German, means a "storehouse," and has given name to a beer much brewed in Bavaria, and far more extensively in the United States, owing to the fact that in the former country it is stored in cool cellars or vaults for several months prior to use. In the United States, however, this last requisite is generally much curtailed. Ordinary beers are fermented at high temperatures, while lager owes its peculiar properties to the comparatively slower kind of fermentation to which it is subjected.

Lagides, an Egyptian dynasty, the chief of which was Ptolemy, son of Lagus, a general of Alexander. It ruled in Egypt from the death of Alexander until the reduction of the country into a Roman province, 30 B. C., a period of 293 years.

Lagomys, a genus of rodents, much resembling hares or rabbits, but with limbs of more equal length, more per-

fect clavicles, longer claws, longer head, shorter ears, and no tail. There are about a dozen species, one in S. E. Europe, one on the Rocky Mountains, and the rest on the mountains of Northern Asia.

Lagoon, a shallow lake or sheet of water, connected with the sea or a river, found on the coasts of Holland, Italy, South America, etc. They sometimes are almost dried up in summer and become stagnant marshy pools. Also a sheet of water surrounded by an atoll.

Lagos Colony, a British possession in West Africa, consisting of Lagos Island and the coast between Dahomey and Southern Nigeria; area, 985 square miles; pop. 85,607. Principal products, palm oil and kernels, ivory, gum copal, cotton, rubber, cocoa, and coffee.

Lagos Protectorate, a region in West Africa under the protection of Great Britain; bounded on the W. and N. by the French possessions, and on the E. by South Nigeria; area, over 21,000 square miles; pop. (1900) about 3,000,000. Its limits have recently been modified by agreement with France and rearrangement of the British possessions on the Niger, the present boundaries being defined Dec. 27, 1899.

Lagothrix, a genus of South American monkeys, characterized by their round head, a thumb on the anterior hand (a characteristic which distinguishes them from the Ateles), and the tail partly naked. The grison, or silver-haired monkey, is a species of this genus.

Lagrange, Joseph Louis, a French mathematician; born in Turin, Jan. 25, 1736. While still a youth he solved for Euler the "isoperimetrical problem"; when Euler died, he succeeded him as director of the Berlin Academy (1766), and held that office till 1787. In the meantime he contributed to the proceedings of the Academy a long series of memoirs, and wrote his greatest work, "Analytical Mechanics." After the death of Frederick the Great he removed to Paris; there he was lodged in the Louvre, and a pension was settled on him equal to that granted by Frederick. He remained in France during the Revolution, safeguarded by the respect felt for his learning and his virtues even by the judges of the revolutionary tribunals. He died in Paris, April 10, 1813.

Laguna, a tribe of North American Indians numbering about 1,143, and living in a collection of small pueblos, or villages, in New Mexico on the Rio San Jose.

La Harpe, Jean Francois de, a French writer; born in Paris, France, Nov. 20, 1739. His best known works are his critical lectures, published in 12 vols. (1799–1805) as "Lycæum, or Course in Literature," which long remained a standard of literary criticism. The Revolution, at its commencement, found no more ardent admirer than La Harpe; but after five months' imprisonment for refusing to countenance the extremes to which the immoderate zealots of the movement pushed matters his views changed, and he became a firm supporter of Church and crown. He died in Paris, Feb. 11, 1803.

Lahore, a city of Hindustan, India; capital of the Punjab, and administrative headquarters of Lahore division and district, on the left bank of the Ravi, 265 miles N. W. of Delhi; it is surrounded by a brick wall 16 feet high, flanked by bastions; area, 640 acres. The streets are extremely narrow, unpaved, and dirty, and the houses have in general a mean appearance. The European quarter lies outside the walls on the S., and dates from 1849. Pop. 176,854.

Laing, Alexander Gordon, a British African traveler; born in Edinburgh, Dec. 27, 1793. After serving in the army and attaining the rank of major, he entered in 1822 on his career as an African traveler. The results of his early journeys in West Africa were published in 1825. He explored the upper course of the Niger, and was assassinated by his guide near Timbuctoo, Sept. 26, 1826.

Laing, Malcolm, a Scotch historian; born on the mainland of Orkney, in 1762. He died in November, 1818.

Laissez Faire, a term applied to that manner of conducting a government in which the people are allowed to regulate themselves with as little

interference from the supreme authority as possible.

Lake, a large sheet or expanse of water entirely surrounded by land, and having no direct or immediate communication with any sea, ocean, or river, or having communication only by means of rivers. The largest fresh water lake on the globe is Lake Superior, in North America. It is 400 miles long, 160 miles wide at its greatest breadth, and has an area of 32,000 square miles.

Lake Dwellings. The earliest account of lake dwellings is to be found in Herodotus, who describes a Thracian tribe living, in 520 B. C., in a small mountain lake of what is now Rumelia. The custom of constructing these habitations has come down to the present day. The fishermen of Lake Prasias, near Salonica, still inhabit wooden cottages built over the water, as the Thracian tribes did, and in the East Indies the practise of building lake settlements is very common.

The lake dwellings proper of Switzerland came to light during the winter months of 1853–1854, when the water of the lakes fell much below its ordinary level. Dr. Keller, who first described these lake dwellings, says that the main platform was made of round timbers, rarely of split boards, covered with a bed of mud; the walls and sides were in great measure of interlaced branches, the interstices filled with moss, and daubed with clay. In his opinion, all the evidence goes to show they were rectangular in shape. It is probable that the huts were thatched, and the parts used as dormitories strewn with straw or hay.

Also, artificial islands found principally in Ireland, where they served the purpose of strongholds. In this case "the support consisted not of piles only, but of a solid mass of mud, stones, etc., with layers of horizontal and perpendicular stakes, the latter serving less as a support than to bind the mass firmly together." They are of much later date than the lake dwelling proper, some being depicted in Johnson's "Platt of the County Monaghan," a map of the escheated territories made for the English government in 1591.

LAKE DWELLINGS.

Lake Forest University, a co-educational institution in Lake Forest, Ill., founded in 1857 under the auspices of the Presbyterian Church.

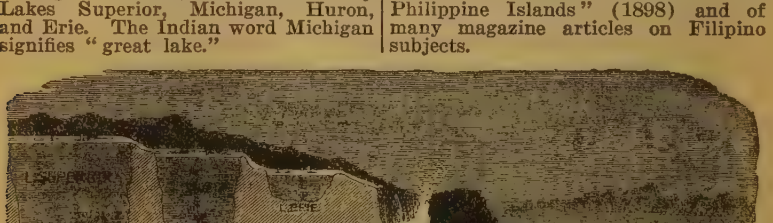
Lake of the Thousand Islands, an expansion of the St. Lawrence extending about 40 miles below Lake

Ontario. It contains about 1,500 rocky islets, the largest, Wolfe Island (48 square miles; pop. 2,383), measuring 21 miles by 7.

Lake of the Woods, a large lake of North America, studded with numerous wooded islands; length nearly 100 miles, circuit about 300 miles. It is mostly in Ontario, but extends also into Manitoba and Minnesota. It is fed by the Rainy river, and drained by the Winnipeg.

Lakes (originally prepared from lac, whence the name), pigments or colors formed by precipitating animal or vegetable coloring matters from their solutions chiefly with alumina or oxide of tin.

Lake State, The, a name given to Michigan. Its shores are watered by Lakes Superior, Michigan, Huron, and Erie. The Indian word Michigan signifies "great lake."



COMPARATIVE DEPTH AND ELEVATION OF THE GREAT LAKES.

Lake Survey, a complete survey of the American shores of the great lakes — Superior, Michigan, Huron, Erie, and Ontario — rendered necessary by the proximity in which vessels are at all times. It was commenced with an appropriation by Congress of $15,000 in 1841, carried on under the direction of the Chief Engineer U. S. A., and completed in 1870. The developed line is 4,700 miles in length. Various points were developed during the survey, among them the existence of solar and lunar tides in Lakes Michigan and Erie, the heights of the lakes above the sea, and their fluctuations. Also determinations in the magnetic elements were made at various points. The picture shows the levels and depths of the system.

Lala, Ramon Reyes, an American author; born in the city of Manila, Philippine Islands, March 1, 1857; was educated at St. Xavier's College, Hong Kong, St. John's College, London, and at Neufchatel, Switzerland; traveled extensively; returned to Manila and engaged in business with his father. Owing to Spanish oppression he came to the United States, and was the first Filipino ever naturalized here. He became widely known in the United States as a lecturer on the people and land of his birth. He is the author of "The Philippine Islands" (1898) and of many magazine articles on Filipino subjects.

Lalande, Joseph Jerome Le-Francais de, a French astronomer; born in Bourg, Ain, France, July 11, 1732. Sent to Paris to qualify for an advocate, he was attracted to astronomy, which he studied under Delisle and Lemonnier. Later he was appointed one of the astronomers-royal, and in 1762 succeeded Lemonnier in the professorship of astronomy in the College de France, a post which he held during the remainder of his life. In 1795 he was appointed Director of the Paris Observatory. His principal work is "Treatise on Astronomy" (2

vols. 1764). He died in Paris, France, April 4, 1807.

Lally-Tollendal, Thomas Arthur, Count de Lally and **Baron de Tollendal,** a French general; born in Romans, Dauphine, France, in January, 1702. Lally distinguished himself as a soldier in Flanders, especially at the battle of Fontenoy; accompanied Prince Charles Edward to Scotland in 1745; and in 1756 was appointed commander-in-chief in the French East Indian settlements. He commenced vigorous hostilities against the British, but was at length defeated and conveyed as a prisoner of war to England. But, hearing that he had been accused of treachery and cowardice in India, he obtained leave to proceed to France for the vindication of his character. There he was thrown into the Bastille, and condemned to death for betraying the interests of the king and the Indian Company, and the sentence was executed on May 9, 1766. But his son, supported by the powerful assistance of Voltaire, procured a royal decree, May 21, 1778, declaring the condemnation unjust, and restoring all the forfeited honors.

Lamar, Lucius Quintus Cincinnatus, an American jurist; born in Jasper co., Ga., Sept. 1, 1825. Admitted to the bar in 1847, he served two terms as congressman from Mississippi (1856–1860). In 1861, after taking part in the secession convention of Mississippi, he entered the Confederate army and achieved distinction. After the downfall of the rebellion he was Professor of Political Economy and Law Professor in the University of Mississippi, and afterward served in both Houses of Congress, manifesting a fraternal feeling toward the North attracting general attention. In 1885 he was appointed Secretary of the Interior and in 1887 became an Associate Justice of the United States Supreme Court, bringing all the brilliant resources of his intellect to the discharge of his official duties. He died in Macon, Ga., Jan. 24, 1893.

Lamar, Mirabeau, 2nd president of the republic of Texas; born in Louisville, Ga., Aug. 16, 1798. In 1835 he removed to Texas, then on the verge of revolution. He at once threw himself into the cause of independence, and highly distinguished himself at the battle of San Jacinto. In 1836 he was elected vice-president, and in 1838 president of the new republic, holding the latter office till 1841. On the outbreak of the Mexican war he (with the rank of Major-General) served at the battle of Monterey under General Scott. He was afterward employed in operations against the Comanche Indians, and eventually appointed United States minister to Nicaragua and Costa Rica. He died in Richmond, Tex., Dec. 19, 1859.

Lamarck, Jean Baptiste Pierre Antoine de Monet, Chevalier de, a French naturalist; born in Bazantin, Picardy, France, Aug. 1, 1744. His great and excellent work, the "History of Invertebrate Animals," will ever entitle him to take his place in the very first rank of zoölogists. As a conchologist his name stands preëminent, and the Lamarckian arrangement of shells is still that of the present day. In his latter days he became blind and comparatively poor. He died in Paris, Dec. 18, 1829.

Lamb, Charles, an English author; born in London, England, Feb. 10, 1775. He was educated at Christ's Hospital, where the poet Coleridge was his schoolfellow. Debarred from entering the clerical profession owing to an impediment of speech, he obtained an appointment in the South-Sea House, in 1789, which he quitted in 1792, to take a situation in the accountant's office of the East India Company, from which he retired in 1825 on a pension of $2,250 per annum. In 1796 and 1797 some short poems by him appeared along with others by Coleridge, and in 1798 he published a volume of poems in conjunction with his friend Charles Lloyd. It met with little success. On the other hand, his tale of "Rosamund Gray" (1798) was well received when it appeared, and is still a favorite with those who have a taste for Lamb's writings. Almost all his other productions were contributions to different periodicals of his day. By far the best known, a series of essays, appeared first in the "London Magazine," under the name of "Elia." They have been frequently republished in a

collected form since 1823, latterly along with "Last Essays of Elia," first published in 1833. Here, in a style ever happy and original, and with humor of the rarest and most pungent description, he has carried the short essay to a point of excellence perhaps never before attained. He died in Edmonton, England, Dec. 27, 1834.

Lamb, Isaac Wixan, an American inventor; born in Salem, Mich., Jan. 8, 1840. He is known principally by his invention of a knitting machine which can produce more than 30 kinds of knit goods and make about 4,000 loops a minute at ordinary speed, besides turning out both flat and tubular work.

Lamb, Martha Joan Reede Nash, an American historian; born in Plainfield, Mass., Aug. 13, 1829; received an excellent education; married Charles A. Lamb in 1852 and settled in Chicago, Ill.; was secretary of the United States Sanitary Commission Fair in 1863; settled in New York city in 1866 and devoted herself to literature, becoming editor of the "Magazine of American History" in 1883. She died in New York city, Jan. 2, 1893.

Lamech, a descendant of Cain, in the 5th generation, and ancestor of a numerous posterity distinguished for skill in agriculture, music, and several mechanical arts. He is the first polygamist on record.

Lamellibranchiata, a division of the higher mollusca, represented by the oysters, mussels, cockles, etc., which are distinguished by the possession of a bivalve shell, the absence of a distinct head, and the presence of four lamellar or plate-like gills (whence the name).

Lamellicornia, or Lamellicornes, a tribe of beetles having short antennæ terminated by a lamellated club — i. e., a club composed of lamellæ or little plates — formed by the expansion on one side of the three apical joints. The mentum is solid and horny; the legs are long, and have spines and tooth-like projections on the fore ones, enabling them to dig with facility.

Lamellirostres, a family of swimming birds, distinguished by the flat form of the bill, which is invested by a soft skin, and provided at the edges with a set of transverse plates or lamellæ, through which the mud, in which these birds grope for food, is sifted or strained. The family comprises the ducks, geese, swans, flamingoes, etc.

Lamennais, Hugues Felicite Robert de, a French writer; born in St. Malo, June 19, 1782. He was ordained priest in 1817. The same year appeared the first volume of his "Essay upon Indifference in the Matter of Religion." He wrote also: "Sketch of a Philosophy," "Religion," and translated the Gospels, accompanying the text with notes. He died in Paris, Feb. 27, 1854.

Lamentations, one of the shorter books of the Old Testament. No author's name is attached to it in the Hebrew Bible, where it is simply designated from its first two words, ekhah, "O how." The Septuagint translators called it Threnoi Ieremiou," "Dirges or Lamentations of Jeremiah." Universal tradition attributes it to him, and the style is that of his acknowledged prophecies.

Lamia, a monster said to inhabit the center of Africa, with the face and upper part of the body like a woman, and the extremities like a serpent. The first lamia, according to classic mythology, was the daughter of Neptune, who, having become insane through the jealousy of Juno, caught and devoured all new-born children she came across.

Laminarian Zone, in zoölogical geography, the second of the great marine zones into which mollusks are distributed, a zone from low water to 15 fathoms in depth.

Lamination, the arrangement of rocks in thin layers or laminæ, the condition of a large proportion of the earth's strata. Shale deposits exhibit this structure very plainly, being frequently easily separable into the thin laminæ in which they were originally deposited. Shale is the fine sediment that settles down at the bottom of some tranquil or slightly-moving water. The laminæ indicate interruption in the supply of the materials, which may have been occasioned by successive tides, by frequent or periodical floods, or by the carrying medium

having access to a supply of different material, passing, e. g., from mud to sand, and back again to mud.

Lammergeier, a large bird of prey also called the bearded vulture or bearded griffin. The full-grown bird is of a shining brownish-black color on the upper parts, with a white stripe along the shaft of each feather; the head is whitish, with black stripes at the eyes; the neck and underpart of the body are rusty yellow. It is the largest bird of prey in the Old World, measuring almost 4 feet high when sitting, nearly 5 feet in length, and from 9 to 10 feet in expanse of wing. Though by no means brave, it is bold and rapacious, swooping down on hares, lambs, young goats, etc.

Lamon, Ward Hill, an American biographer; was a law partner of Abraham Lincoln, and after the latter's election as President became his private secretary and was appointed by him marshal of the District of Columbia. He died in Martinsburg, W. Va., May 7, 1893.

Lamont, Daniel Scott, an American executive officer; born in Cortlandville, N. Y., Feb. 9, 1851; was educated at Union College and engaged in journalism; private secretary to President Cleveland in 1885–1889 and Secretary of War in 1893–1897. He then became vice-president of the Northern Pacific Railway Company.

Lamont, Hammond, managing editor New York "Evening Post"; born in Monticello, Sullivan co., N. Y., Jan. 19, 1864, son of Rev. Thomas and Caroline Deuel (Jayne) Lamont; was graduated from Harvard, 1886. Has been instructor in English at Harvard, and associate professor of rhetoric, and afterward professor of rhetoric in Brown University, resigning the latter position to take the managing editorship of the "Evening Post," which has been greatly modernized and improved under his direction.

La Motte, Jeanne de Valois, Comtesse de, a French adventuress; a descendant of the family of Valois by an illegitimate child of Henry II., and notorious for the part she played in the "diamond necklace" fraud; born in Champagne, July 22, 1756. She married the Comte de la Motte, a penniless adventurer, and settled in Paris about 1780. She was killed in London by falling out of a window, Aug. 23, 1791. Her husband lived a miserable wandering life till his death in 1831.

Lamp, a vessel used for the combustion of liquid inflammable bodies, for the purpose of producing artificial light. The invention of the lamp is ascribed to the Egyptians. In creating of the construction of modern lamps it is necessary to take into consideration the nature of the flame, in order to insure a constant and steady flame, it is necessary that the supply of combustible matter be steady and uniform. It must, therefore, be either in a liquid or gaseous state, so that it may approach the flame in an uninterrupted current. The combustible substance may either be made to approach the flame by capillary attraction through wicks, or by mechanical pressure. A good lamp must have the following properties: It must be supplied with carbonaceous matter and with oxygen; it must convert the former into a gaseous state; and it must bring the gas so produced into contact with oxygen at such a temperature that the carbon will combine with oxygen in the highest degree without producing smoke.

Lampblack, the soot or amorphous carbon obtained by burning bodies rich in that element, such as resin, petroleum, and tar, or some of the cheap oily products obtained from it. A large quantity of lampblack has been made in the United States by the imperfect combustion of natural gas. Lampblack is a useful pigment for artists both in oil and water color, a coarser kind being employed by house-painters.

Lamprey, the sea, or spotted lamprey is an eel-like fish, nearly three feet long, greenish-brown, marbled with darker brown and green on the back and sides. It attaches itself to rocks, boats, and to other fishes, by the mouth, exhausting the air. It is found in the United States, in England, and Africa.

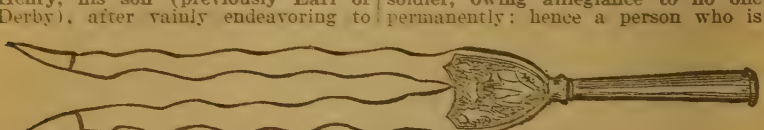
La Navidad, the name of a fort built by Columbus in 1493 on the N. E. coast of Haiti, and which was the first Spanish settlement in the New World. Here he left a company of between 30 and 40 men, but on his re-

turn in November of the same year found they had all been killed by the Indians and the fort destroyed. A new fort was subsequently built at Isabella.

Lancaster, the name of a royal English house which flourished in two lines in the 13th, 14th and 15th centuries. The first commences with Edmund, son of Henry III. and Eleanora of Provence, and brother of Edward I. Thomas, his son and successor in the earldom, cousin-german to Edward II., headed the confederacy of barons against Piers Gaveston, and finally shared the responsibility of his death with Hereford and Arundel. Henry (previously Earl of Leicester), brother and heir of Thomas, joined the conspiracy of Isabella and Mortimer against Edward II., and received the king into his custody at Kenilworth. Henry, his son (previously Earl of Derby), after vainly endeavoring to make peace with John, King of France, under the mediation of the Pope at Avignon, was sent with an army into Normandy, and took part in the victory of Poitiers and the subsequent French wars. The next Duke of Lancaster commences a new lineage that of the princes opposed to the house of York. The first in the line was John of Gaunt, or Ghent, third son of Edward III. His name is one of the most celebrated in English history and in the chivalry of the Middle Ages. Henry of Hereford, the successor of John of Gaunt in the dukedom, was son to him by his first wife. He claimed the crown by descent, by the mother's side, from Edmund the first earl, who was popularly supposed to be the elder brother of Edward I., and to have been deprived of the succession by his father for personal reasons. He became king by deposing Richard II., 1399, and was a prince of great ability and valor. He reigned as Henry IV. till his death in 1422, and was succeeded by his son, Henry V. The son of the latter also inherited the crown as Henry VI., and in his reign the feuds of York and Lancaster broke out, which ended in the union of the two houses in the person of Henry VII.

Lance, a weapon consisting of a long shaft with a sharp point, much used, particularly before the invention of firearms. It is a thrusting weapon used on foot, but chiefly on horseback. In the Middle Ages the lance was held in the highest repute by knights and men-at-arms who formed the main strength of European armies.

Free lance: Formerly a mercenary soldier, owing alliegiance to no one permanently: hence a person who is free to assail any party or principle and is not pledged to any one more than temporarily.



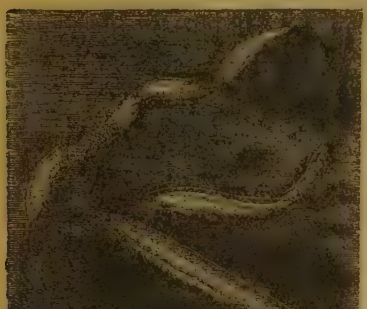
BEDOUIN LANCE HEADS.

Stink-fire lance: A fuse which, when ignited, emits a suffocating odor, and is used in military mining operations to dislodge counter-miners.

In carpentry, a pointed blade, usually employed to sever the grain on each side of the intended path of a chipping bit or router. It is used in crozes, planes, and gauges of certain kinds.

In the Greek ritual, a small knife used in the early part of the present Greek liturgy to divide the Host from the holy loaf. The action commemorates the piercing of our Lord's side. The priest makes four cuts in the loaf, and stabs it more than once, accompanying each action with appropriate texts of Scripture.

Lancelet, a transparent and iridescent fish about three inches long, with a fin extending nearly from the snout to the hinder extremity. The skeleton is imperfectly developed, the blood



LANCELET.

colorless; no proper skull or brain. It has affinities to the Ascidian. Its movements are active. It is found in temperate and tropical seas.

Lancer, a cavalry soldier armed with a lance. Lancers were introduced into European armies by Napoleon I., after the pattern of those in the Polish service. In dancing, the "lancers" are a certain set of quadrilles.

Lancelot of the Lake, the hero of a celebrated Middle-Age romance which was originally written in Latin by an unknown author, and afterward translated into the Romance tongue by Chevalier Gautier Mapp.

Lancewood, a wood valuable for its great strength and elasticity. A species yields the wood called white lancewood, which, however, is not much used. Lancewood is of great value to coach-builders, by whom it is used for shafts and carriage poles, for which it is especially fitted. It comes in small quantities from the West Indies, chiefly from Jamaica.

Landau, a town of the Bavarian Palatinate, 11 miles W. of the Rhine and 17 S. W. of Spires. Founded and made an imperial city in the 13th century, it has some interesting old churches and played a prominent part in history as a fortress. During the Thirty Years' War it was taken eight times; in 1688 it was fortified by Vauban for Louis XIV., but surrendered four times during the war of the Austrian Succession. In 1816 Bavaria became mistress of it; and in 1870–1871 its fortifications were levelled to the ground. Pop. 13,617.

Lande (French), a healthy and sandy plain unsuited for bearing grain. From the vast extent of landes (about four-fifths of the total area) which it contains, the third department of France, in point of size, derives its name.

Lander, Frederick West, an American military officer; born in Salem, Mass., Dec. 17, 1821; became a civil engineer; made surveys across the continent for the United States government for the purpose of finding a suitable route for a transcontinental railroad; served in the Army of the Potomac in the early part of the Civil War; died in Paw Paw, Va., March 2, 1862.

Lander, Jean Margaret, an American actress; born in Wolverhampton, England, May 3, 1829; followed her profession in the United States in 1838–1842; played as Julia in "The Hunchback" in England and Holland during 1842–1848; settled in the United States in 1849, and married Gen. Frederick West Lander, Oct. 12, 1860. During the Civil War she was active in the National Hospital service; a few years after the war she retired from the stage.

Lander, Richard, an English African explorer and discoverer of the mouth of the Niger; born in Truro, Cornwall, Feb. 8, 1804; died in Fernando Po, Feb. 16, 1834.

Land Grant, a grant made by Congress to assist railroad companies to secure funds, by the sale of bonds secured by lands so granted, to construct lines of railway through parts of the United States where the local traffic would not pay the running expenses. About 215,000,000 acres of land were given to the various railroads of the country by the government. The Illinois Central received a

strip of land 12 miles wide, running the whole length of Illinois; the Northern Pacific received 47,000,000 acres; the Atlantic and Pacific, 42,000,000; the Union Pacific, 13,000,000, and other roads in proportion. Congress has also made many grants of land to the several States and Territories to promote public education.

Land League, an association projected by Charles S. Parnell, which came into being at a meeting held in Dublin, Nov. 18, 1879. Nominally the programme was the "three F's" — fixity of tenure, fair rent, and free sale (of the tenant's interest); but many speakers at Land League meetings went so far as to demand that the soil should belong to the cultivator. Opposition by direct violence was deprecated, and recourse was had to boycotting. This state of things continued till the end of 1880, when 14 members of the Land League, of whom the most important were Parnell, Dillon, Biggar, T. D. Sullivan, and T. Sexton, were indicted. The trial, which took place early in 1881, was a fiasco, but it drew from Justice Fitzgerald the declaration that the Land League was an illegal body. On Oct. 7, Gladstone denounced Parnell, and soon afterward Parnell, Dillon, Sexton, O'Kelly, and the chief officials of the League, were arrested and imprisoned in Kilmainham. They issued a manifesto calling on the Irish tenants to pay no rent during their imprisonment. The government replied by declaring the Land League an illegal body, and suppressed its branches throughout the country.

Land of Bondage, a Scripture name for Egypt, in allusion to the harsh treatment received by the Israelites during the latter part of their sojourn in that country.

Land of Steady Habits, a phrase applied to Connecticut. The term contains an allusion to the gravity of its people and the uniformity of its customs.

Land of the Bee, Utah; in allusion to the busy industry of its population.

Land of the Midnight Sun, Scandinavia—Norway, Lapland, Sweden, Iceland, etc.— so called by Du Chaillu, who published a book bearing the title.

Land of the Stars and Stripes, the United States — in allusion to the National ensign.

Landon, Melville de Lancey (pseudonym Eli Perkins), an American humorist; born in Eaton, N. Y., Sept. 7, 1839. Among his works are: "Saratoga in 1901"; "Eli Perkins's Wit, Humor, and Pathos"; etc.

Landor, Walter Savage, an English poet; born in Warwick, England, Jan. 30, 1775. He was educated at Rugby and Oxford. During the Peninsular War, raising a troop of cavalry at his own cost, he fought for the Spanish cause till the restoration of Ferdinand VII. After his marriage, in 1811, he took up his abode in Florence, where he resided for several years, and where many of his works were written. He afterward returned to England and remained there for some years absorbed in literary occupations, but, his eccentric temper constantly involving him in difficulties and litigation, he went back to Italy. His principal poetical works are "Hellenics"; "Poems and Inscriptions"; "Dry Sticks"; and 'Last Fruit of an Old Tree." His most important prose work is the "Imaginary Conversations of Literary Men and Statesmen," which appeared in five volumes between 1824 and 1829. He died in Florence, Italy, Sept. 17, 1864.

Landscape-gardening, an art which deals with the disposition of ground, water, buildings, trees and other plants which go to the composition of verdant landscape. Such in a broad sense is the definition of the art; for it may be employed to create a beautiful and harmonious scene where only nature in barren wildness reigned before, or to merely improve and adapt existing natural beauties and resources to the requirements of taste and convenience. Landscape-gardening has been practised from the earliest dawn of civilization.

Landseer, Sir Edwin, an English painter; born in London, England, March 7, 1802. He began to draw animals when a mere child; at 13 he exhibited at the Academy, and the year following became a student. Henceforward he exhibited regularly at the Academy and the British Institution. In 1826 he was elected A.

R. A.; in 1830, R. A.; in 1850 he was knighted, and in 1865 he declined the presidency of the Academy. He took the very highest rank among animal painters; and though he was blamed for introducing too human a sentiment and expression into some of his animals, the humor and pathos of animal nature has had no finer exponent.

Thomas Landseer (1795–1880), brother; was celebrated as an engraver, and made many reproductions of his brother's works. John Landseer (1769–1852), engraver, father of the above. He was elected associate engraver of the Academy, 1807; lectured on, and published several treatises on art.

Land's End, the extreme W. point of England, forming part of the county of Cornwall. It is a rocky promontory washed by the waters of the Atlantic.

Landslide, or **Landslip,** the sliding or settling down of a considerable portion of earth from a higher to a lower level; the earth which so slips or slides. Landslides are produced by earthquake disturbances, or by the action of water undermining the beds which fall.

Lane, Joseph, an American military officer and politician; born in Buncombe co., N. C., Dec. 14, 1801. In 1821 he settled on a farm in Indiana, and the next year was returned to the Legislature. His representative career thenceforward extended over 25 years. In 1846, on war breaking out with Mexico, he resigned his senatorial seat and volunteered as a private soldier. He was almost immediately appointed colonel, and then directly afterward received from President Polk a Brigadier-General's commission. At the conclusion of the war he was brevetted a Major-General, and in August, 1848, was appointed governor of Oregon Territory, from which office he was removed by President Taylor. In 1859, on the admission of Oregon into the Union as a State, represented it as United States Senator, and in 1860 was nominated on the unsuccessful Breckinridge ticket for the vice-presidency of the United States. He died in Oregon, April 19, 1881.

Lanfranc, 1st archbishop of Canterbury after the Norman Conquest; born in Pavia, Italy, about 1005. He was educated at Pavia for the law; about 1039 he left Italy, and founded a school of law at Avranches, which soon became one of the most popular in France; three years later took the monastic vows at the Benedictine monastery of Bec, and in 1046 was chosen its prior. He died in May, 1089, leaving commentaries, sermons, letters, and a work against Berengar.

Lang, Andrew, a British author; born in Selkirk, March 31, 1844. He was educated at Edinburgh Academy, St. Andrew's University, and Balliol College, Oxford, where he took a distinguished position. A versatile writer, he published several volumes of ballads and other light verse; "Ballads and Lyrics of Old France," "Ballades in Blue China," "Custom and Myth," etc. He has written a number of prose books, and is a frequent contributor to periodical literature.

Langdon, John, an American statesman; born in Portsmouth, N. H., June 25, 1741. He aided the Revolution with money contributions and led a company at Saratoga and Bennington. He was a member of the Continental Congress and of the convention which framed the Constitution of the United States. He was governor of New Hampshire in 1788, from 1805 to 1809 and from 1810 to 1812, and United States Senator from 1789 to 1801. He died in Portsmouth, N. H., Sept. 18, 1819.

Langley, Samuel Pierpont, an American physicist and astronomer; born in Boston, Mass., Aug. 22, 1834; was graduated at the Boston High School; was Professor of Mathematics for a time in the United States Naval Academy. He designed the system of railway-time service from observations which later came into general use; discovered an unknown extension of the invisible solar spectrum; and made numerous experiments to perfect an aerial machine which could support itself in mid-air and move freely without the aid of a balloon. He became secretary of the Smithsonian Institution in 1887; and was a member of many learned societies in the United States and Europe. His publications include "The New Astronomy"; "Researches on Solar Heat"; "Experiments in Aero-

dynamics"; "Internal Work of the Wind"; etc. His latest experiment with a flying machine, in October, 1903, disappointed expectations, as the machine did not fly, but dived into the Potomac river.

Langtry, Lily (Le Breton), an English actress; daughter of the Rev. W. C. Le Breton, Dean of Jersey; born in St. Helier's, Jersey, in 1852. In 1874 she was married to Mr. Langtry, a native of Belfast. She paid several professional visits to the United States. In 1899 she was married a second time to Hugo de Bathe.

Lanier, Sidney, an American poet; born in Macon, Ga., Feb. 3, 1842. He served in the Confederate army as a private soldier; after the war studied law, and for a while practised it at Macon; but abandoned that profession and devoted himself to music and poetry. From 1879 till his death he was lecturer on English literature in Johns Hopkins University. The poem "Corn," one of his earliest pieces, and "Clover," "The Bee," "The Dove," etc., show insight into nature. His poetic works were collected and published after his death. He wrote also several works in prose, mostly pertaining to literary criticism and to mediæval history: among the former are "The Science of English Verse"; "The English Novel and the Principles of its Development." He died in Lynn, N. C., Sept. 7, 1881.

Laniidæ, or **Laniadæ,** a family of thrush-like perching birds. The bill, which is long, has a deep notch or prominent tooth near the tip of the upper mandible, which is hooked. Its base is furnished with bristles; the wings are of moderate size, the tail long and rounded, the claws long, curved, and acute. They somewhat approach the raptorial birds, but have not, like them, retractile claws.

Lanigan, George Thomas, an American journalist and poet; born in Canada, Dec. 10, 1845. In Montreal, with Robert Graham, he founded the "Free Lance," a journal of satire and humor; afterward published under the name "Evening Star." In the United States he was connected with various journals. His writings include "Canadian Ballads," and "A Threnody" (for the Ahkoond of Swat), the latter one of his most successful humorous poems. He died in Philadelphia, Pa., Feb. 5, 1886.

Lanman, Charles, an American author; born in Monroe, Mich., June 14, 1819; was private secretary to Daniel Webster in 1850 and secretary of the Japanese legation in Washington in 1871–1882. He was among the first to explore the mountains in North Carolina, and was author of "A Tour to the River Saguenay"; "Private Life of Daniel Webster"; etc. He died in Washington, D. C., March 4, 1895.

Lanman, Charles Rockwell, an American educator; born in Norwich, Conn., July 8, 1850; was graduated at Yale College in 1871; at Johns Hopkins University in 1876–1880, and then became Professor of Sanskrit at Harvard College; is identified with numerous learned societies. His publications include "Sanskrit Reader with Vocabulary and Notes"; "The Beginnings of Hindu Pantheism"; etc.

Lanner, a species of hawk, especially the female of the species, the male being called a lanneret. It is a native of Southern Europe, North Africa, and Southwest Asia, and was much valued in falconry.

Lantern, or **Lanthorn,** a common contrivance used for carrying a lamp or candle in, consisting of a case or vessel made of tin, with sashes of some transparent substance, such as horn or glass. Lanters are first spoken of by Theopompus, a Greek comic poet, and Empedocles of Agrigentum. Lanterns were used by the ancients in augury. They were also carried before troops on the march by night, being then borne on the top of pikes, and so constructed as to throw lights only behind them.

Lantern Flies, insects allied to the cicadas, but forming a family by themselves. They are remarkable for the prolongation of their forehead into an empty vesicular expansion. The lantern fly proper is a native of South America. It is more than three inches in length, and five across the wings.

Lanza, Marchioness Clara, an American novelist; daughter of the late Surgeon-General Hammond.

Among her works are: "Tit for Tat"; "Mr. Perkins's Daughter"; "A Golden Pilgrimage"; etc.

Laocoon, according to classic legend, a priest of Apollo, afterward of Poseidon, in Troy, who married against the will of the former god, and who warned his countrymen against admitting the wooden horse into Troy. For one or both of these reasons he was destroyed along with his two sons by two enormous serpents which came up out of the sea.

Laodamia, in Greek heroic history, the daughter of Acastus and wife of Protesilaus. Her husband was the first of all the Greeks who fell by a Trojan hand, being killed as he leaped on shore from his ship. Laodamia prayed of the gods to give him back to her for but three hours. Her prayer was granted; Hermes led him back to the upper world; and, when the fatal moment to return had come, Laodamia died with him.

Laodicea, in ancient geography, the name of several towns of Asia, the most important of which was a city of ancient Phrygia, near the river Lycos, so called after Laodice, Queen of Antiochus Theos, its founder, built on the site of an older town named Diospolis. It was destroyed by an earthquake during the reign of Tiberius, but rebuilt by the inhabitants, who were very wealthy. Its luxury in the early times of Christianity is attested by the severe rebuke addressed to its inhabitants in the Apocalypse. It fell into the hands of the Turks in 1255, was again destroyed in 1402, and is now a heap of uninteresting ruins, known by the name of Eski-Hissar.

Laodocus, the son of Antenor the Trojan, whose form Pallas assumed when she wanted Pandarus to break the truce agreed on between the Greeks and Trojans, by throwing a dart at Menelaus.

Laomedon, son of Ilius, King of Troy, and father to Priam and Hesione. He built the walls of Troy, assisted by Apollo and Neptune. When the walls were finished, Laomedon refused to reward the labors of the gods, and, soon after, his territories were laid waste by the sea, and his subjects visited by a pestilence. Sacrifices were offered to the offended divinities, but nothing could appease the gods, according to the oracle, save annually to expose to a sea-monster, a Trojan Virgin. Laomedon was put to death after a reign of 29 years, and his son Priam placed on the throne.

Laon, the chief town of the French department of Aisne; 87 miles N. E. of Paris. Occupying a naturally strong position, it has been a fortress since the 5th century; its citadel is surrounded with ruinous walls. From 515 to 1790 it was the seat of a bishop. The cathedral, a Gothic edifice of the 12th century with a handsome facade, and the bishop's palace, now used as a law-court, still remain. In the 10th century the city was the place of residence of the Carlovingian kings, and capital of Francia. At Laon, March 9 and 10, 1814, Napoleon I. was repulsed by the allies under Blucher and Bulow; and it surrendered to a German force, Sept. 9, 1870, when the explosion of the powder magazine by a French soldier cost about 500 lives. Pop. 9,021.

Laos, a territory in the Indo-China peninsula, surrounded by the Shan States Annam, Tonking, and the Chinese province of Yunman; area, estimated, 91,000 square miles; pop. est. 1,500,000; the soil is fertile, producing rice, cotton, tobacco, and fruits, and bearing teak forests; gold, tin, lead, and precious stones are found.

Lapis Lazuli, a mineral of beautiful ultramarine or azure color, consisting chiefly of silica and alumina, with a little sulphuric acid, soda, and lime. The color varies much in its degree of intensity. It is generally found massive, and is translucent at the edges, with uneven, finely granular fracture, but sometimes appears crystallized in rhombic dodecahedrons, its primitive form. It is found associated with crystalline limestone among schistose rocks and in granite, in Siberia, China, Tibet, Chile, etc. The finest specimens are brought from Bokhara. It seems to have been the only stone of any intrinsic value known to the Egyptians under the Pharaohs. The ancients used it much for engraving, for vases, etc. It is extensively employed in ornamental and mosaic work, and for sumptuous altars and shrines. It is easily wrought and takes a good polish. The valuable pigment called ultramarine is made

from it. It is one of the minerals sometimes called azure stone.

Laplace, Pierre Simon, Marquis de, a celebrated French mathematician and astronomer; born in Beaumont-en-Auge, Calvados, France, March 28, 1749. At the age of 24 he was admitted into the Academy of Sciences, and from this time devoted himself with ardor to the composition of a series of memoirs on the most important questions of physical astronomy and to the development in all their details of the consequences that result from the general laws which regulate the system of the universe. Besides these and other researches connected with the improvement and extension of mathematical science, his attention was turned successfully to the investigation of the principles of, and to experimental researches in, chemistry; and associated with Lavoisier, he was the first to repeat in France the experiments of Cavendish to effect the decomposition of water.

At the establishment of the Polytechnic School he was appointed one of its professors. In 1796 he did homage to the Council of Five Hundred by presenting to them his "Exposition of the System of the Universe," a work which was received by the scientific world in general with unbounded admiration. In 1799 he was nominated by the consuls to the ministry of the interior. His success as a minister of State was by no means commensurate with his high reputation as a mathematician and after six weeks he was superseded. The same year he was called to a place in the Senate, of which body he was subsequently vice-chancellor and president.

In 1806 Laplace was raised to the dignity of count of the empire. But though he was indebted for all these offices and honors to the personal favor of Bonaparte, yet, on the emperor's reverse of fortune in 1814, he was one of the first to push matters to extremity against his former benefactor, and to vote for the overthrow of the imperial power and the establishment of a provisional government. On the reëstablishment of the Bourbons the facility with which he had deserted his former master and his zeal in the service of the restored dynasty were rewarded with the title of marquis and a seat in the Chamber of Peers. In 1816 Laplace was named a member of the French Academy, an honor to which he was eminently entitled by the admirable clearness, and purity, and elegance of his style. He died in Paris, March 5, 1827. Almost any one of his original researches, contained in his great work the "Celestial Mechanism," and the general method of the "Theory of Probabilities" for the approximation to the values of definite integrals, are alone sufficient to stamp him as one of the greatest of mathematicians. His discovery of the cause of the discrepancy between the theoretical and the observed velocity of sound, his rules for barometrical measurement, his theories regarding capillary attraction, tides, atmospheric refraction, the static properties of electricity, etc., prove that in some of the most important departments of physics his mind was not less profitably and actively engaged than in mathematical analysis. Astronomy owes to his labors the discovery of the invariability of the major axes of the planetary orbits, and of the great inequality in the motions of Jupiter and Saturn; the solution of the problem of the acceleration of the mean motion of the moon, the theory of Jupiter's satellites, and other important laws, and it was he who first propounded the nebular hypothesis. Laplace was styled by Airy "the greatest mathematician of the past age."

Lapland, the collective name for the extensive region in the N. of Europe inhabited by Lapps. Pop. about 28,000, thus distributed: 18,000 in Norway, 7,000 in Sweden, nearly 800 in Finland, and 2,000 in Russia. Norwegian Lapland is a mountainous country, its coasts cleft by the narrow, steep-walled fjords; in Swedish Lapland the most chacteristic features are ridges with narrow valleys between, the latter generally partly filled with long, narrow lakes; farther E., in Finnish and Russian Lapland, the surface is more level, the rivers and lakes become more numerous, marshes are frequent, and next the Arctic Ocean barren tundras, and many square miles are covered with forests of fir and spruce, yet low ranges of hills occur in some districts, as, for instance, the Umbdek Mountains, in the peninsula of Kola. Some of the lakes are of

large size. The river Tana, which flows N. to the Arctic Sea, is the second longest river of Norway; and several other rivers of considerable size flow into the White Sea and the Gulf of Bothnia, as the Tulom, the Kemi, etc. The summer is short and comparatively hot, owing to the fact that the sun scarcely ever sinks below the horizon during the three months that summer lasts; during this period the mosquitoes are a terrible plague. For seven or eight weeks in winter the sun does not rise above the horizon; comparative darkness prevails all the time, except when the snow-covered landscape is illuminated by the aurora borealis; the cold in winter is excessive; but owing to the prevalent stillness of the air the cold is not felt so severely as might be expected.

La Plata, the capital of the Argentine province of Buenos Ayres, founded in 1882, after Buenos Ayres city, from which it is about 30 miles S. E., had been made the federal capital; a canal connects a harbor which has been constructed at La Plata with a larger outer harbor at Ensenada, on the La Plata river; pop. (1901) 61,000.

La Plata, Rio de, a wide estuary of South America, between Uruguay on the N. and the Argentine Republic on the S., through which the waters of the Parana and the Uruguay sweep down to the ocean; length about 200 miles, width 28 miles at Buenos Ayres, and 140 miles at its mouth, between Maldonado and Cape San Antonio. The affluents of the La Plata drain an area estimated at 1,600,000 square miles, and the outflow of the estuary is calculated at about 52,000,000 cubic feet per minute — a volume exceeded only by that of the Amazon; the yellow, muddy stream is recognizable 60 miles out at sea. The estuary was discovered in 1515 or 1516 by Diaz de Solis, who was shortly afterward roasted and eaten by the Indians on its bank.

Lapps, the inhabitants of Lapland. The Lapps are usually distinguished as Mountain, Sea, Forest, and River Lapps. The Mountain Lapps, the backbone of the race, are nomads; they move constantly from place to place in order to find sustenance (Arctic moss) for their reindeer herds. The Sea Lapps, mostly impoverished Mountain Lapps, or their descendants, dwell in scattered hamlets along the coast, and live by fishing. The Forest and River Lapps have taken to a settled mode of life; they not only keep domesticated reindeer, but hunt and fish. The Lapps all profess Christianity; those of Norway and Sweden belong to the Lutheran Church, those of Russia to the Greek Church.

Lapwing, in ornithology, the genus Vanellus and species V. cristatus. The specific name refers to the occipital feathers of the male in winter, which are very loose, long, and curved upward, so as to constitute an erectile crest. Albinos sometimes occur. It is seen in spring flying over fields, turning somersaults in the air, and uttering a musical cry, from which it is often called peewit. It lays four eggs, and lures intruders away from its nest by simulating lameness. The "lapwing" of Scripture (Lev. xi: 19, Deut. xiv: 18) is probably the hoopoe.

Lar, plural **Lares,** more rarely **Lars,** a tutelary divinity, usually a deified ancestor or hero. The worship of Lares was very prevalent among the Romans. They were of two kinds: domestic and public. Of the former, the Lar familiaris, regarded as the founder of the family, and inseparable therefrom, was the most important, and corresponded to the eponymic hero of the Greeks. The latter were divided into Præstites, guardians of a whole city; compitales watching over a certain portion of a city; Rurales, gods of the country; Viales, protecting travelers; and Marini or Permarini, gods of the ocean.

Laramie Mountains, a range which extends through Wyoming and Colorado, and bounds the Laramie Plains on the E. and N. E.; the highest point is Laramie Peak, 10,000 feet high.

Laramie Plains, a plateau in Southern Wyoming, N. W. of Cheyenne, about 7,500 feet above sea-level.

Laramie River, a river rising in Northern Colorado and flowing into the North Platte at Fort Laramie in Eastern Wyoming; length about 200 miles.

Larboard, the left side of a vessel to a person standing on deck and

facing the bow. Port is now substituted for larboard.

Larceny, in law, the unlawful taking or attempting to carry away the personal property of another, with intent to appropriate. In the United States in the different States larceny is variously graded into grand and petit larceny, or simple and compound.

Larch, a deciduous tree, growing rapidly, and furnishing a durable timber. The bark is used in tanning, being second in value, in this respect only to oak.

Larcom, Lucy, an American poet; born in Beverly Farms, Mass., in 1826. In her youth she was a factory girl in Lowell, Mass., and was a contributor to the "Lowell Offering," a magazine conducted by the workers in the cotton mills of that city; was a student for a time at Monticello Seminary, Godfrey, Ill.; afterward taught school: but the greater part of her life was devoted to literary work. In 1866–1874 she was editor of "Our Young Folks." She wrote stories and four or five volumes of poetry. She died in Boston, Mass., April 17, 1893.

Lardner, Dionysius, an English cyclopædist; born in Dublin, Ireland, April 3, 1793. After four years as clerk to his father, a solicitor, he entered Trinity College. He is best known as the originator and editor of "Lardner's Cyclopædia" (132 volumes, 1830–1844). He came to the United States and lectured. He died in Naples, Italy, April 29, 1859.

Lareau, Edmund, a French Canadian author; born in St. Gregoire, Quebec, March 12, 1848. He was educated at the College of Ste. Marie de Mannoir, at Victoria College, and at McGill University. He was called to the bar. His works, written in French include histories of Canadian law and literature.

Largo, in music, an Italian word, denoting very slow time, and especially in composition where the sentiment is quite solemn. Larghetto is the diminutive of largo, the time being slightly quicker.

Lariat, a lasso; a long cord or thong of leather, with a running noose, used in catching cattle, horses, etc. Also a rope used for picketing horses, permitting them a limited circle in which to graze.

Laridæ, gulls; a family of seabirds, commonly placed under swimmers. Species exist on the coasts of most countries.

Larissa, famous in ancient times as the chief town of Thessaly, now the capital of the nomarchy of Larissa in Northern Greece. It was the center of the Turkish operations in the war of Greek liberation; it was ceded by Turkey to Greece in 1881.

La Rive, Auguste de, a Swiss physicist; born in Geneva, Switzerland, Oct. 9, 1801. He was especially interested in researches in electricity as well as in investigations of the specific heat of gases, etc., and made some valuable discoveries in magnetism, electro-dynamics, etc. The process of electro-gilding was invented by him. He died in Marseilles, France, Nov. 27, 1873.

Lark, the name is given in the United States to one of the Sturnella family, the meadow or field lark, and in Australia to the bush lark. The sky-lark extends all through Europe and Asia, as far as China.

Larkspur, a showy and popular genus of garden flowers, natives of the temperate and cold regions of the Northern Hemisphere, and comprising both annual and perennial species.

Larnaka (ancient Citium), the chief port of Cyprus. A small fort built by the Turks in 1625 is now used as the district jail. Even if Citium be not the Chittim of the Old Testament, it is certain that the King of Citium paid tribute to the Assyrian Sargon in 707 B. C., as appears from a cuneiform inscription on a bas-relief dug up at Larnaka in 1846, and now in the museum at Berlin.

Larochejaquelein, Du Verger de, an old noble family of France. The name Du Verger is derived from a place in Poitou. Guy du Verger married, in 1505, the heiress of the seigneur of Larochejaquelein. Several of his descendants distinguished themselves by their devoted loyalty to the old royal house against the fury of the French Revolution. Henri, Comte de Larochejaquelein: born Aug. 30, 1772, was an officer in the guard of Louis XVI.; was killed in a battle at

Nouaille, March 4, 1794. His brother, Louis du Verger, Marquis de Larochejaquelein, born Nov. 29, 1777, emigrated at the commencement of the Revolution; returned to France and in 1813 placed himself at the head of the royalists in La Vendee. He fell in battle at Pont-des-Mathis, June 4, 1815. His wife, Marie-Louise Victoire, Marquise de Larochejaquelein (1772–1857), published "Memoirs" of the war, which are of value to the historian.

La Rochelle, a seaport of France, on an inlet of the Bay of Biscay, formed by the islands Re and Oleron. The inner harbor has two basins, in which ships of any size may remain afloat. By the marriage of Eleanor of Guienne with Henry Plantagenet, afterward Henry II., May 18, 1152, this town came into the hands of the English, and was captured by Louis VIII. in 1224. In 1360 it was ceded to England, but was recovered by Bertrand du Guesclin in 1372. The Huguenots held it from 1557 to Oct. 28, 1628, when it surrendered to Louis XIII. They sustained a siege from December, 1572 to 1573, when peace was made. It was again fortified by Vauban in the reign of Louis XIV. An attempt made by the English, in 1809, to destroy the French fleet here was unsuccessful.

Larousse, Pierre, a French lexicographer; born in Toucy, Oct. 23, 1817. In 1864 appeared the first volume of his "Great Universal Dictionary of the Nineteenth Century" (completed 1876, 15 vols. with supplementary volumes 1878 and 1887). He died Jan. 3, 1875.

Larrazabal, Felipe, a Venezuelan biographer and historian; born about 1822. He wrote a valuable "Life of the Liberator Simon Bolivar," collected a large amount of manuscript material on the history of America, and was on his way to Europe to arrange for the publication of his works when he was drowned in the wreck of the steamship "City of Havre," in 1873.

Larrey, Dominique Jean, a French surgeon; born in Baudeau, in the Pyrenees, July 8, 1766. He studied medicine in Toulouse, and after graduating served as surgeon in the navy; in 1793 he transferred to the army, and introduced the "flying ambulance" service. He died in Lyons, France, July 25, 1842.

Lartius, Titus Flavius, the first appointed dictator at Rome, in 498 B. C.

Larva, the term applied in natural history to indicate the first and earliest stage in the development of those animals which undergo a metamorphosis or series of changes in their progress from the egg to the mature and adult state.

Larvalia, an order in which the animal retains throughout life the tail which in other tunicates is characteristic of the larval stage. All are marine and almost microscopic in size.

Laryngitis, inflammation of the windpipe. When membranous it is called croup, and may also be frequently found associated with diphtheria.

Laryngoscope, an instrument used for examining the larynx. It consists of a little plane mirror attached to a stem about four inches long, at an angle of about 120°. This mirror is introduced into the mouth of the patient or person to be examined, and held near the back of the throat, while a strong light is thrown on it from a reflector worn on the forehead or held between the teeth of the examiner. It was not, however, till two German physiologists took up the subject in 1857 that the benefits arising from its use were fully recognized.

Larynx, the vertebrate organ of voice, situated generally at the upper part of the trachea or windpipe, and formed essentially of a dilatation of the windpipe, with modifications of the cartilaginous rings of that organ.

La Salle, Robert Cavelier, Sieur de, a French explorer; born in Rouen, France, Nov. 22, 1643. Settling in Canada at the age of 23, he began his travels with an attempt to reach China by descending the Ohio river, which he supposed to empty into the Pacific. As soon as he found that the great S. streams drained into the Gulf of Mexico he formed the project of descending the Missssippi to the sea. After many and severe hardships this long voyage was concluded, and the arms of France set up at the mouth of the great river on April 9, 1682. Two years later an expedition was fitted out to establish a permanent

French settlement on the Gulf, which should secure France's claims to the Mississippi valley. But La Salle's bad fortune pursued him; he mistook Matagorda Bay for a mouth of the Mississippi, landed there, and then spent two years in unsuccessful journeys to discover the great river, while his colonists and soldiers gradually dwindled away. His harshness of manner, more than his want of success, embittered his followers, and he was assassinated by some of them March 20, 1687.

La Salle College, an educational institution in Philadelphia, Pa., founded in 1867 under the auspices of the Roman Catholic Church.

Lascar, in the East Indies, properly a camp follower, but is generally applied to native sailors on board of British ships.

Lascaris, Constantine, a Greek scholar, who, after the capture of Constantinople by the Turks, fled to Italy, where he was instrumental in reviving the study of Greek. He was a descendant of the royal family of Nicæa. He taught rhetoric and Greek letters at Messina till his death in 1493. His Greek grammar, entitled "Erotemata," and dated 1476, was the earliest Greek book printed in Italy. His library, which is very valuable, is now in the Escurial.

Lascaris, John, or **Janus,** a relation of the above, surnamed Rhyndacenus; born about 1445; also found an asylum in Italy; was appointed by Leo. X. superintendent of his Greek press; died in Rome in 1535. From Rome he edited several first editions of the Greek classics.

Lascaris, Theodore, Emperor of Nicæa, a young Greek prince who married, in 1200, Anna, daughter of the elder Alexius, Emperor of the East. On the capture of Constantinople by the Crusaders, in 1204, Theodore escaped into Anatolia, and under the title of despot ruled over part of the empire at Nicæa. In 1206 he took the title of emperor and extended his dominion as far as the river Meander. He was the greatest soldier and the best statesman of his time. He died in 1222.

Las Casas, Bartholomew de, a Spanish prelate; born in Seville, Spain, in 1474. In his 19th year he accompanied his father, who sailed with Columbus, to the West Indies. On his return to Spain he embraced the ecclesiastical profession, in order that he might act as missionary in the Western Hemisphere, "there to spend his days in preaching the Gospel to the Indians, and humanity to their oppressors." Never did man more zealously endeavor to effect a great and good object. Twelve times he crossed the ocean, to plead at the foot of the Spanish throne the cause of the wretched Indians, and passed 50 years of his life in attempting their amelioration. He was made Bishop of Chiapa in 1544; but he resigned his see in 1551, returned to his native country, and died in Madrid, in July, 1566, in the 92d year of his age.

Las Cases, Emmanuel Dieudonne, Comte de, a French historiographer; born near Revel, Languedoc, France, in 1766. He was a lieutenant in the navy before the Revolution. After Napoleon became consul, Las Cases established himself as a bookseller in Paris. A work that he wrote, "Historical Atlas," attracted the attention of the emperor, who made him a baron and employed him in the administration. After Waterloo he obtained leave to share the exile of Napoleon in St. Helena, and there the ex-emperor dictated to him a part of his "Memoirs." After Napoleon's death he published "Memorial of St. Helena," of which O'Meara's "Napoleon in Exile" is a kind of continuation. Las Cases died in Passy, France, May 15, 1842.

Lash, in weaving, a thong formed of the combined ends of the cords by which a certain set of yarns are raised in the process of weaving Brussels carpet.

Lasker, Eduard, a German political leader, born in Jarotschin, Posen, Oct. 14, 1829. He died in New York, Jan. 5, 1884.

Lasker, Emanuel, a German chess player; born in Berlinchen, Prussia, Dec. 24, 1868. In the New York tournament of 1893 he won his games with all the 13 leading players, including Steinitz, the champion of the world. A set match with Steinitz took place at Moscow in Dec., 1896,

and Jan., 1897, and this Lasker won by 10 games to 2, 5 being drawn.

Lassallen, Ferdinand, a German agitator, founder of the German Social Democracy; born of Jewish parents named Lassal, in Breslau, April 11, 1825. His talents won him the admiration even of his enemies. He died in Geneva, Aug. 31, 1864.

Lassell, William, an English astronomer; born in Bolton, Lancashire, England, June 18, 1799. He built a private observatory at Starfield, near Liverpool, about 1820. There he constructed and mounted equatorially reflecting telescopes of nine inches aperture and two feet aperture successively. The speculum of the latter was polished by means of a machine of Lassell's own invention. With this same telescope he discovered the satellite of Neptune (1847); the 8th satellite of Saturn (1848), simultaneously with Professor Bond of Harvard and two new satellites of Uranus (1851). He died near Maidenhead Oct. 5, 1880.

Lasso, a thin, well-plaited rope of raw hide, used in Spanish America for catching wild cattle.

Last Sigh of the Mòor, The, a rocky eminence in the outskirts of the city of Granada, Spain. It is noted as the spot where Boabdil, the last Moorish monarch, took his farewell of the land of his birth.

Lateen Sail, a triangular sail, having its upper edge fastened to a long yard, which is inclined at an angle of about 45°. The yard is slung at a point three-quarters of its length from the peak end. It is used principally in the Mediterranean.

Latent Heat, that portion of heat which exists in any body without producing any effect on another or on the thermometer.

Latent Life, a phrase often used to describe the physiological condition of organisms in which the functions are for a time suspended, without losing the power of future activity.

Lateral Pressure, or **Lateral Stress,** a pressure at right angles to the length of a beam.

Lateran, Church of St. John, the first in dignity of the Roman churches, and styled in Roman usage "the Mother and Head of all the churches of the city and the world." As cathedral church of Rome it surpasses St. Peter's in dignity. It is called Lateran from its occupying the site of the splendid palace of Plautius Lateranus, which, having escheated (A. D. 66) in consequence of Lateranus being implicated in the conspiracy of the Pisos, became imperial property, and was given to Sylvester by the Emperor Constantine. It was originally dedicated to the Saviour; but Lucius II., who rebuilt it in the middle of the 12th century, dedicated it to John the Baptist.

Lateran Councils, in Church history, certain councils held in the Church of St. John Lateran in Rome. In all five general councils held, besides an important council, not œcumenical, against the Monothelites in A. D. 649.

Lath, one of the narrow strips nailed to the studs of partitions to support plastering. Strips of metal are sometimes used for this purpose in fire-proof structures.

Lathe, a machine for turning and polishing flat, round, cylindrical, or other shaped pieces of wood, ivory, metal, etc., in which the object revolves while it is shaped or polished by a tool applied to it.

Lathrop, George Parsons, an American author; born in the Hawaiian Islands, Aug. 25, 1851; was for some years employed editorially on the "Atlantic Monthly" and the Boston "Courier." He died in New York, April 19, 1898.

Lathrop, Rose Hawthorne, an American poet; born in Lenox, Mass., May 20, 1851; daughter of Nathaniel Hawthorne; married George Parsons Lathrop in 1871; became interested in bettering the condition of the destitute and suffering women of New York city.

Latimer, Hugh, an English reformer; born in Thurcaston, Leicestershire, England, about 1490. He was educated at Cambridge, and received the degree of M. A. in 1514. He was then, as he says himself, "as obstinate a Papist as any in England," but became a Protestant chiefly through the influence of Ridley. He strenuously promulgated the doctrines of the Reformation. When Mary came

to the throne, he was committed to the Tower, whence he was sent, with Ridley and Cranmer, to Oxford, to hold a conference with several doctors from the universities. He pleaded that he was old, sick, and had used the Latin tongue but little for 20 years; he was therefore permitted to give a long profession of faith in writing, for which he was condemned as a heretic, and imprisoned for more than a year in Bocardo, the common jail of Oxford. He was then again summoned before the commissioners, but refusing to recant, he was condemned and burned, near Baliol College, at the same stake with David Ridley, Oct. 16, 1555.

Latin, the language of the ancient Romans.

Latin Church, the Church of the West, as distinguished from the Oriental Church.

Latin Cross, a cross the transverse beam of which is one-third the length of the vertical one.

Latins, the ancient inhabitants of Latium, in Italy. Rome was originally a colony of Alba, and thus the language of the Romans is known as the Latin language.

Latin Union, The, a combination formed in 1865 by France, Italy, Belgium, and Switzerland. These countries entered into an agreement by which the amount of silver to be coined yearly was fixed for each member of the union. The coinage of all the countries was of like character, and to be received without discount throughout the union on public and private account. Greece joined the union in 1868, Spain in 1871, and subsequently Servia and Rumania also became members. Some of the South American States also used the Latin Union coinage. Spain alone of the countries of the union coins a gold piece not used by the others. The unit of coinage in the Latin Union is the franc; it has different names elsewhere, as, in Italy the lira; in Servia, the dinar; in Spain, the peseta; but the value is always the same. It is the most widely circulated coinage system in Europe, being used by about 148,000,000 people.

Latitude, the angular distance of a star from the ecliptic, measured on a great circle drawn through the star and the pole of the ecliptic. This method of measurement is now not much used, that by right of ascension and declination having largely taken its place. Latitude is the most potent, though not the only cause in determining the climate of the several countries. The latitude of a place on the surface of the earth is its angular distance from the equator measured on the meridian of the place. Latitude is N. or S., according as the place is N. or S. of the equator.

Latitudinarian, a party in the Church of England about the middle of the 17th century, who, wearied by the fierce religious disputes of the time, aimed at a broad or comprehensive system which might reconcile the contending parties, or at least diminish the vehemence of their controversies. The term is often used at the present day of persons of broad religious views.

Latour d'Auvergne, Théophile Malo Corret de, dubbed by Napoleon "First Grenadier of the Armies of the Republic"; born in Carhaix Finistère, of an illegitimate branch of the family of the Dukes of Latour d'Auvergne, Nov. 23, 1743. He enlisted as a musketeer in 1767, and distinguished himself at the siege of Port Mahon in 1782. But he steadily refused advancement in military rank, and was killed, a simple captain, June 28, 1800, at Overhausen, near Neuburg in Bavaria. His remains were carried to Paris and interred in the Panthéon on Aug. 4, 1889. French biographies are full of instances of his daring valor, his Spartan simplicity of life, and his chivalrous affection for his friends. When he died the whole French army mourned for him three days; his sabre was placed in the Church of the Invalides at Paris; and every morning, till the close of the empire, at the muster-roll of his regiment his name continued to be called, and the senior sergeant answered to the call: "Mort au champ d'honneur" (Dead on the field of honor). Latour d'Auvergne was also a student of languages, and wrote "Language, Origin and Antiquity of the Bretons."

La Trappe, a Cistercian abbey of Northern France, in a narrow valley

of Normandy, 30 miles N. E. of Alençon. Founded in 1140, it had become in the 16th century a haunt of licentious monks known as the bandits of La Trappe. In the 17th century, however, the Abbot Armand Jean le Bouthelier de Rancé instituted a vigorous reform, and caused the monks to adopt a life of severe asceticism. The Trappists prayed 11 hours daily, and passed the rest of their time in hard labor and silent meditation. Beyond the sacred hymns and prayers, and their usual salutation, *Memento mori*, no word passed their lips — even their wishes and wants were indicated by signs. Their meagre diet consisted solely of fruits and pulse; meat, fish, butter, wine, and eggs being entirely prohibited. They received no information of what was going on in the world, and no news from their relations; all their thoughts were devoted to penance and death, and every evening they dug their own graves. The Trappists were obliged to leave France at the time of the Revolution; but a considerable number of them found a shelter at Valsainte, in Switzerland. Driven from this shelter they found refuge at Constance, at Augsburg, at Munich, and ultimately in Lithuania and White Russia. Small communities established themselves in Italy, Spain, America, England, and even in France, at Mont Genèvre, despite the prohibitory law. After the restoration their old home at La Trappe was restored to them. La Trappe continues to be the head monastery of the order, and they have also establishments in various parts of Europe, and in America. The professed brothers wear a dark-colored frock, cloak, and hood, which covers the whole face. A female order of Trappists was founded by Louisa, Princess of Condé.

Laube, Heinrich, a German dramatist and novelist; born in Sprottau, Sept. 18, 1896. He died in Vienna, Aug. 1, 1884.

Laud, William, an English prelate; Archbishop of Canterbury in the reign of Charles I.; born in Reading, Berkshire, England, Oct. 7, 1573. He was promoted to the see of Canterbury, and chosen chancellor of the University of Dublin. The zeal which he displayed for conformity to the Church, and his endeavors to introduce the liturgy into Scotland, created him numerous enemies. At the commencement of the Long Parliament, therefore, he was impeached by the Commons, and sent to the Tower. After lying there three years he was brought to his trial before the Lords, by whom he was acquitted, but the Lower House passed a bill of attainder, declaring him guilty of treason, which they compelled the peers to pass; and the archbishop was accordingly beheaded on Tower Hill, Jan. 10, 1645. He was in the 72d year of his age and met his fate with great fortitude.

Laudanum, or more correctly Tincture of Opium, the most generally used of the preparations of opium.

Laughing Gas, nitrous oxide, or nitrogen monoxide, or protoxide of nitrogen; so called because when inhaled it usually produces exhilaration.

Laughing Jackass, or **Great Kingfisher,** a bird in some respects an aberrant form. It has the general build of a kingfisher, but is not a fisher. It feeds upon insects, reptiles, and even small mammals. The peculiar hoot which it utters has, of course, given to it its name. It lays its pearl-white eggs in a hole in a gum tree. There is another closely allied species of identical habits; both birds inhabit Australia.

Laughing Philosopher, a characterization of Democritos (469–361) of Miletus. He laughed at the follies of man, whereby they were forever involving themselves in difficulties. He was the originator of the atomic theory, taught the theory of gravitation, and that the milky way is a cluster of stars.

Laughlin, James Laurence, an American educator; born in Deerfield, O., April 2, 1850; was graduated at Harvard College in 1873; was Professor of Political Economy at Cornell University in 1890–1892; accepted the head professorship of the same branch in the University of Chicago in 1892. In 1894–1895 he drew up a plan of monetary reform for San Domingo, which that government later adopted. He is the author of "Anglo-Saxon Legal Procedure in Anglo-Saxon Laws" (1876); etc.

Laura (Laure de Noves), later **Madame de Sale,** a French lady, famed as the beloved of Petrarch; born in 1308. She was the mother of 11 children. Though she was already married when Petrarch first saw her in a church at Avignon, April 6, 1327, and though she never gave him any encouragement beyond an occasional kindly smile, or word of appreciation of his constant friendship, his attachment for her was most sincere and faithful and 300 of his sonnets are devoted to his remembrances of her. She died in Avignon, France, April 6, 1348.

Laurel, the genus Laurus and specially the bay, the laurus of the Romans and the daphne of the Greeks. The berries, the leaves, and the oil have a fragrant smell, an aromatic astringent taste, and narcotic and carminative properties. Water distilled from them contains prussic acid.

Laurens, Henry, an American statesman; born in Charleston, S. C., in 1724. Descended from a French Huguenot family, the early life of Laurens was passed in mercantile pursuits, from which he ultimately realized an ample fortune. On the outbreak of the American Revolution, Laurens, in 1776, was elected a delegate from his native State to the Continental Congress, and became its president, which office he held till the close of 1778. Next year, being appointed minister-plenipotentiary to Holland, he was captured on his way thither by a British frigate, and taken to London, where he was confined as a prisoner in the Tower; and his papers having proved the complicity of Holland in the colonial revolt, a war between Great Britain and Holland followed. On his release, after an imprisonment of 15 months, Laurens was appointed one of the commissioners for negotiating peace, in pursuance of which he proceeded to Paris, where, Nov. 30, 1782, he, conjointly with Franklin and Jay, signed the preliminaries of the treaty. After his return to the United States he passed the remainder of his life in privacy and died in Charleston, Dec. 8, 1792.

Laurens, John, an American military officer; son of the preceding; born in South Carolina in 1756. After receiving his education in England he joined the American Continental Army in 1777, becoming aid-de-camp and secretary to Washington. Laurens so highly distinguished himself in the battles of Germantown and Monmouth, and in other operations of the War of Independence, as to earn for himself the title of the "Bayard of the Revolution." In 1780 he was sent to France to negotiate a loan, and succeeded in obtaining a grant both of money and supplies. He was killed in action at the Combahee river, S. C., Aug. 27, 1782.

Laurent, François, a French historian and publicist; born in Luxemburg, France, July 8, 1810; died in Ghent, Feb. 11, 1887.

Laurier, Sir Wilfrid, a Canadian statesman; born in St. Lin, Quebec, Nov. 20, 1841. He was educated for the legal profession. He embarked on his political career in 1871, when he was elected as a Liberal to the Quebec Provincial Assembly; and here his eloquence and ability at once brought him to the front. In 1874 he was elected to the Federal Assembly, and his high personal character, his undoubted loyalty and attachment to the connection of the colony with Great Britain, together with his great oratorical powers, which have earned for him the title "Silver-tongued Laurier," soon gave him high rank in the Liberal party. From the first he advocated a policy of free trade so far as the revenue requirements of the country would allow; and, though a Catholic, his spirited resistance to the attempted dictation of the Roman Catholic hierarchy in regard to the Manitoba schools question showed that he was independent of such influence in political affairs. On the retirement of Mr. Blake in 1891 he was chosen as leader of the Liberal party, and at the general election of 1896 he led his followers to a notable victory, becoming Premier of the Dominion. His tariff legislation during 1897, giving Great Britain the benefit of preferential trade with Canada, aroused much enthusiasm both in the colony and in England and he was warmly welcomed when he visited London to attend the Jubilee festivities. He was then appointed a member of the Privy Council.

Lava, a term used vaguely of all molten matter existing within or flowing in streams from volcanic vents, but more specifically confined to the latter, the former being called trap.

Lavater, Johann Casper, a Swiss theologian; born Nov. 13, 1741, in Zurich, Switzerland, where his father enjoyed the reputation of a skillful physician. All his activity was devoted to the service of religion till he undertook his work on physiognomy. Lavater had become acquainted with a great number of persons and his lively imagination had led him to the conclusion that there exists a much closer connection between the internal man and the external expression in the face than is generally supposed. He reduced this external expression of disposition and character to a system and considered the lines of the countenance as sure indications of the temper. His death occurred on Jan. 2, 1801.

Lavender, a menthoid plant with hoary leaves and grayish-blue flowers. It is cultivated for the sake of the fragrant, volatile oil, combined with a bitter principle, contained in the flowers and used in perfumery. Medicinally they are carminatives, stimulants, tonics, and sternutatories.

Lavigerie, Charles Martial Allemand, a French clergyman; born in Bayonne, Oct. 31, 1825. He was made Roman Catholic bishop of Algiers in 1867, and cardinal in 1882. He strove to suppress the slave trade. He died in Algiers, Nov. 26, 1892.

Lavisse, Ernest, a French historian; born in Nouvion-en-Thierache, Dec. 17, 1842. His historical researches have chiefly to do with Prussia and the German Empire.

Lavoisier, Antoine Laurent, a French chemist, one of the founders of modern chemistry; born in Paris, France, Aug. 16, 1743. Besides papers contributed to the proceedings of learned societies, he wrote an "Elementary Treatise on Chemistry" (1789). He was a farmer-general of taxes, and was guillotined in Paris, May 8, 1794.

Law, George, an American financier; born in Jackson, N. Y., in 1806. Learning the trades of mason and stone-cutter he became a contractor for the construction of railroads and canals; afterward owning a line of steamships to California and Panama, and engaging in other large enterprises, including the Panama railroad. He died in 1881.

Law, John, a Scotch financier; born in Edinburgh, Scotland, April 21, 1671. He settled in Paris, and, in company with his brother William, set up in 1716 a private bank. This was soon so successful and prosperous that the Duke of Orleans, the regent, adopted in 1718 Law's plan of a national bank, and issued prodigious quantities of bank notes, which enjoyed perfect credit, while the ordinary national bonds remained, as they had long been, at a price far below their nominal value. In 1719 Law originated his "Mississippi Scheme" and the following year was made a councilor of State and comptroller-general of finances. When the bubble burst he became an object of popular hatred and found it best to quit France. After wandering here and there he finally settled in Venice, where he spent his last years poor and forgotten, yet to the very end occupied with plans for restoring himself to power and prosperity. He died in Venice, Italy, March 21, 1729.

Lawrence, Abbott, an American diplomatist; born in Groton, Mass., Dec. 16, 1792; conducted a cotton industry in Lowell, Mass., with his brother; was a commissioner in 1842 to settle the Northeastern Boundary question and arranged a basis for settlement with Lord Ashburton which was satisfactory to both the United States and England; was minister to Great Britain in 1849–1852; founded the Lawrence Scientific School of Harvard University, to which he gave $100,000. He died in Boston, Mass., Aug. 18, 1855.

Lawrence, James, an American naval officer; born in Burlington, N. J., Oct. 1, 1781; entered the American navy as a midshipman, 1797; was with Decatur as his 1st lieutenant in the engagement against Tripoli. While in the Mediterranean he was promoted, and rose to the command successively of the "Vixen," "Wasp," "Argus," and "Hornet." While cruising with the latter off Delaware, Feb. 24, 1813, he met the British vessel "Peacock," which he captured after a brilliant en-

gagement of only 15 minutes. On his arrival in the United States he was received with acclamation in consequence of this dashing success, and was made post captain and given command of the frigate "Chesapeake." He was preparing for sea, with his vessel in the roads of Boston, when the British frigate, the "Shannon," Captain Broke, appeared off the harbor and challenged the "Chesapeake," which Lawrence, though his ship was in an incomplete condition as to crew, armament and stores, resolved to accept. He accordingly put to sea as morning broke, June 1, 1813. The "Shannon" bore away at his approach, but the "Chesapeake" hauling to and firing a gun, the enemy followed suit and the action began. At almost the first fire Lawrence was severely wounded in the leg. Nothing daunted the brave commander continued the engagement, which was soon brought to close quarters. Lawrence now received a mortal wound in the abdomen, and as he was carried below, in the hottest of the struggle, he cried out these immortal words, "Don't give up the ship." The battle, however, did not last long. Captain Broke grappled with the "Chesapeake," and boarding, overpowered her. The struggle lasted 11 minutes. Captain Lawrence lingered four days in extreme suffering, and died on the "Chesapeake," at Halifax, June 5, 1813, and was buried with military honors in Halifax by the British. His uniform coat, chapeau, and sword are now in possession of the New Jersey Historical Society.

Lawrence, Sir Thomas, an English portrait painter; born in Bristol, England, May 4, 1769. He died in London, Jan. 7, 1830.

Lawrence, William Beach, an American jurist; born in New York city, Oct. 23, 1800; was graduated at Columbia College in 1818; admitted to the bar in 1823 and practised in New York, where he attained eminence; settled in Newport, R. I., in 1850; elected lieutenant-governor of Rhode Island in 1851, and soon after became acting governor. He wrote "Belligerent and Sovereign Rights as regards Neutrals During the War of Secession" (1873); etc. He died in New York city, March 26, 1881.

Lawrence, The, Perry's flagship in the battle of Lake Erie.

Lawson's Cypress, a species of cypress found in the valley of Northern California, where it grows to the height of 100 feet. The branches are numerous and are drooping, slender, and regularly disposed, forming a symmetrical columnar mass of rich green spray.

Lawton, Henry Ware, an American military officer; born in Manhattan, O., March 17, 1843; entered the military service as a private, April 16, 1861; became a sergeant of Company E, 9th Indiana Infantry, April 18, 1861; 1st lieutenant of the 30th Indiana Infantry, Aug. 20, 1861; captain, May 17, 1862; lieutenant-colonel, Feb. 15, 1865; mustered out Nov. 25, 1865; entered the regular army as 2d lieutenant in 41st Indiana Infantry, July 28, 1866; transferred to the 4th U. S. Cavalry in January, 1871; promoted to captain, March 20, 1879. In 1876 he was conspicuous in the expedition against the hostile Sioux, sharing every privation and going into dangers into which he would not send one of his soldiers. He took part against the Ute Indians in Colorado, in October, 1879, relinquishing his command to join the expedition. In the spring of 1886 he was selected by General Miles to lead a picked body of troops into Mexico in pursuit of the murderous Geronimo. For three months he led his little command in pursuit of the savages from one range of mountains to another, sometimes scaling peaks 9,000 to 10,000 feet above the sea-level, and then descending into the depths of the canyons where the heat was almost intolerable. During this time Lawton and his command marched 1,396 miles. The country was mostly parched and barren desert. Saltless mule meat and sometimes little of that, was their staple ration. But Lawton and his men were undaunted, and kept up the chase till Geronimo and his band were captured. At the beginning of the American-Spanish War Lawton was a lieutenant-colonel and was made a Major-General of volunteers, July 8, 1898. He was in command of the 2d Division of the 5th Army Corps before Santiago, and was in the thick of the fighting preceding the capture

of San Juan Hill and will go down in history as the "hero of El Caney." At the close of the war with Spain General Lawton was transferred to the Philippines where he began active operations against the insurgents; captured Santa Cruza, a Filipino stronghold, April 10, 1899, and San Isidro, May 15; was placed in command of Manila, June 1, and early in the fall began an offensive campaign looking toward the capture of Aguinaldo; arrived at Arayat Oct. 19, and made Cabanatuan his headquarters. On Dec. 19, he was on the firing lines at San Mateo, where owing to his tall figure and brilliant uniform he was easily picked out by insurgent sharpshooters. He had scarcely been warned of his danger when he cried, "I am shot," and fell dead.

Lawton, William Cranston, an American educator; born in New Bedford, Mass., May 22, 1853; was graduated at Harvard in 1873; studied in Europe from 1880 to 1883; was a classical teacher in New Bedford and Boston for several years; and subsequently a professor at Bryn Mawr college and Adelphi College.

Lay, John Louis, an American inventor; born in Buffalo, N. Y., Jan. 14, 1832; served in the Civil War; distinguished himself in July, 1862, by going with the expedition against the Confederate ram "Albemarle," which was destroyed by a torpedo of his invention; promoted first assistant engineer in October, 1863. Later he conceived the idea of a moving submarine torpedo. In 1867 he designed the weapon named after him and subsequently sold it to the government. He died in New York city, April 17, 1899.

Layard, Sir Austin Henry, an English archæologist; born in Paris, France, March 5, 1817. He is best known by his books: "Nineveh and its Remains," and "Discoveries in the Ruins of Nineveh and Babylon." He died in London, England, July 5, 1894.

Lay Brother, or **Lay Sister,** a person who takes the habits and vows of religion, but is employed mostly in manual labor, and is therefore exempt from the duties of the choir, where such exist, or from the studies, etc., incumbent on the other members of religious orders where there is no choir.

Lazaret, or **Lazaretto,** a name given in Italy, and other parts of Southern Europe, to certain public buildings for the reception of the poor, and such as are afflicted with contagious disorders. The name is derived from St. Lazarus, who is called the patron saint of lepers; and during the Middle Ages, when leprosy was common in Italy and other parts, the hospitals in which the lepers were confined received that name, and the lepers themselves were called lazzari. Howard wrote "An Account of the Principal Lazarettos in Europe" (1789). Those buildings and inclosures attaching to seaport towns chiefly on the Mediterranean, where the crews and passengers of ships from places where contagious disease is known to prevail, are also called lazarettos. These lazarettos consist generally of various detached buildings, with courts between, the whole being surrounded by a wall, and placed in an airy situation outside the town, or sometimes on a small island near the coast. When smallpox was a prevalent scourge, many years ago, American towns also had lazarettos. Similar places now are known as "smallpox camps," etc.

Lazarus, Emma, a Hebrew-American poet; born in New York city, July 22, 1849. She died in New York city, Nov. 19, 1887.

Lazzaroni, till lately a special class of the inhabitants of Naples. They had no fixed habitations, regular occupation, or secure means of subsistence, but occasionally obtained employment as messengers, porters, boatmen, itinerant venders of food, etc. They performed an important part in all the revolutions and movements in Naples, and were wont annually to elect a chief (Capo Lazzaro), who was formally recognized by the government.

Lea, Henry Charles, an American publisher and historian; born in Philadelphia, Pa., Sept. 19, 1825; entered his father's publishing house in 1843; became the principal in 1865; and retired from business in 1880. Between 1840 and 1860 he wrote many papers on chemistry and con-

chology. After 1857 he devoted his attention to European mediæval history, his chief works being: "Superstition and Force"; "An Historical Sketch of Sacerdotal Celibacy"; "History of the Inquisition of the Middle Ages," etc.

Lead. This metal was well known to the ancients. Several lead mines were worked by the Romans, with whom the leaden waterpipes were common. Lead is an abundant and widely distributed metal. It is a constituent of a very large number of minerals, but in practice the metal is obtained from only a few of these, especially from the sulphide and carbonate.

League, a combination or union between two or more persons for the promotion of mutual or common interests, or for the execution of any design in common. Also a treaty, alliance, or confederation between two or more sovereigns or governments for mutual aid and defense. An offensive league or alliance is when two or more States agree to unite in attacking a common enemy; a defensive league is when the contracting parties agree to assist each other in their defense against a common enemy.

League. Derived from the Celtic word for a stone placed to mark distance. On land it is three miles. At sea it is three nautical miles.

Leah, the elder daughter of Laban, and the first wife of Jacob, though less beloved than her sister Rachel. She had through life the remembrance of the deceit by which her father had imposed her upon Jacob. She was the mother of seven children, among whom were Reuben — Jacob's first born — and Judah, the ancestor of the leading tribe among the Jews, of the royal line, and of our Lord (Gen. xxix: 16–35; xxx: 1–21). She is supposed to have died before the removal of the family into Egypt (Gen. xxxix: 31).

Leake, William Martin, an English antiquarian; born in London, England, Jan. 14, 1777. He died in Brighton, Jan. 6, 1860.

Leander, the adventurous lover of Hero, who swam nightly across the Hellespont to visit her, but eventually was drowned.

Leaning Tower. See PISA.

Leap Year, a year which leaps over, as it were, one day more than an ordinary year; a year which contains 366 days, as distinguished from an ordinary year, which includes only 365 days. Every year, the number of which is divisible by four is a leap year, except when it happens to be any number of hundreds not divisible by four. Thus, 1884 is a leap year, but not 1900, this omission of one leap year in every four centuries being necessary to correct the error which arises from the excess of the addition of one day in four years (i. e., six hours) to the year over the true length of the year, i. e., 365 days, 5 hours, 49 minutes.

Lear, Edward, an English author; born in London, England, May 12, 1812. He died in San Remo, Italy, Jan. 30, 1888.

Lear, King, a legendary king of Britain, who in his old age divided his kingdom between Goneril and Regan, two of his daughters, who professed great love for him. These two daughters drove the old man mad by their unnatural conduct. Shakespeare made this story the subject of one of his plays.

Leary, Richard Phillips, an American naval officer; born in Baltimore, Md.; was graduated at the United States Naval Academy in 1860; served with the blockading squadron off Charleston, S. C., in 1863–1865; promoted commander in 1882. During the revolution at Samoa in 1888, when the Tamasese government was overthrown, he was the senior naval officer present; promoted captain in April, 1897; commanded the cruiser "San Francisco" in 1897–1898; and when the "New Orleans" was purchased from Brazil convoyed that vessel to the United States. At the close of the Spanish-American War he was appointed the first American governor of Guam; and served there till relieved on his own request, in April, 1900. He died in Boston, Mass., Dec. 27, 1901.

Lease, the contract establishing the relation between landlord and tenant. Every lease has its own peculiar clauses, as to drainage, houses, cropping, etc.

Leasehold, a dependent tenure held by lease.

Leather, the skins of animals chemically modified by tanning and otherwise, so as to arrest that proneness to decomposition which characterizes unprepared skins, and to give to the substance greatly increased strength, toughness, and pliancy, with insolubility in water.

Leaven, a substance used or intended to produce fermentation, as in dough; specifically, a portion of sour dough which, being mixed with a larger quantity of other dough, causes fermentation, and makes it lighter; yeast; barm. Also any mixture which causes or tends to cause a general change in the mass. It generally means something which depraves or corrupts that with which it is mixed.

Leavenworth, the name of a fort in Kansas on the W. side of the Missouri river, about 4 miles below Weston, Mo. It is the oldest and most important military depot on the Missouri river, the fort having been built in 1827. It is the site of an important United States military prison.

Lebanon, a mountain range in Syria. The word Lebanon is derived from a Semitic root meaning "white"; and this name is given to the mountains, not because their peaks are covered with snow (as they are even in summer), but because of the whitish color of their rocks. Streams of clear water are numerous. The inhabitants (estimated at over 221,000 in all) are a hardy, ruddy race of people, of Syrian (Aramæan) descent, who keep large herds of sheep and goats. The predominating element is the Maronites, more than two-thirds of the total; next come the Druses. Besides these there are Mohammedans, members of the Greek Church, Metawile (a sect of Shiite Moslems), and a few converts of the American Protestant and the Roman Catholic missionaries of Beyrout. After the bloody quarrels of the Druses and Maronites in 1860, the district of Lebanon was separated (1861) from the Turkish pashalik of Syria, and put under a Christian governor, the European powers constituting themselves the "guardians" of the new province.

Lebrun, Charles, a French painter; born in Paris, France, Feb. 24, 1619. He died in Paris, Feb. 12, 1690.

Le Brun, Marie, a French painter; born in Paris, France, April 16, 1755. She died March 30, 1842.

Lecky, William Edward Hartpole, historian; born near Dublin, Ireland, March 26, 1838. He was educated at Trinity College, where he graduated B. A. in 1859 and M. A. in 1863. Already in 1861 he had published anonymously "The Leaders of Public Opinion in Ireland," four brilliant essays on Swift, Flood, Grattan, and O'Connell. Later works were his learned, luminous, and dispassionate "History of the Rise and Influence of the Spirit of Rationalism in Europe"; "History of European Morals from Augustus to Charlemagne"; and "History of England in the Eighteenth Century." D. Oct. 22, 1903.

Leclaire, Edme-Jean, a French social scientist; born in Aisy-sur-Armancon, France, May 14, 1801. He died July 13, 1872.

Le Clerc, John, better known as Johannes Clericus, a Genevan Reformed theologian; born in Geneva, Switzerland, March 19, 1657.

Lecocq, Alexandre Charles, a French composer of comic operas; born in Paris, France, June 3, 1832.

Lecompton Constitution, a proslavery constitution adopted by the Legislature of Kansas in 1857, but rejected by the people of the Territory, Jan. 4, 1858.

Leconte de Lisle, Charles Marie René, a French poet; born in the Isle of Bourbon (Reunion), Oct. 23, 1818. Settling in Paris (1846), he was at first an enthusiastic socialist and disciple of Fourier; afterward he became an impassioned admirer of the ancient religions of Greece and India, and a pantheistic conception of the universe dominated all his thoughts. He made admirable translations of ancient Grecian poets — Homer, Hesiod, Theocritus, Anacreon, and the dramatists. He died in Louveciennes, near Paris, July 17, 1894.

Le Conte, John, an American physicist; born in Liberty co., Ga.,

Dec. 4, 1818. He was Professor of Physics, Industrial Mechanics and Physiology in the University of California from 1869 till his death, and was president of that institution from 1876 to 1881. He wrote a large number of papers on scientific subjects, which were printed in scientific journals on both sides of the Atlantic. He died in Berkeley, Cal., April 29, 1891.

Leconte, John Lawrence, an American naturalist; born in New York city, May 13, 1825. He was surgeon of volunteers during the Civil War and chief clerk of the United States mint in Philadelphia from 1878 till his death. He traveled all over the United States making scientific researches, and secured large collections of botanical, zoölogical, and other specimens, which at his death were given to the Museum of Comparative Zoölogy, Cambridge, Mass. He wrote many entomological papers. He died in Philadelphia, Pa., Nov. 15, 1883.

Le Conte, Joseph, an American scientist; born in Liberty co., Ga., Feb. 26, 1823. He practised medicine for several years at Macon, Ga., but in 1850 went to Cambridge, Mass., where he studied natural history under Agassiz. He subsequently held several professorships, and after 1869 occupied the chair of geology and natural history in the University of California. He died in the Yosemite Valley, California, July 6, 1901.

Ledochowski, Miecislas Halka, a Polish Roman Catholic ecclesiastic; born in Galicia, Oct. 29, 1822. He studied theology at Warsaw, Vienna, and Rome; became domestic prelate and prothonotary apostolic to Pius IX.; entered the papal diplomatic service and became papal auditor successively at Madrid, Lisbon, Rio de Janeiro, and Santiago de Chile. In 1861 he was made Archbishop of Thebes. By his appointment to the archbishopric of Guesen and Posen in 1866 he became primate ex officio of Poland. He was an active opponent of the Prussian ecclesiastical laws which gave the people of dioceses and parishes the privilege of choosing their own bishops and priests. In 1873 he headed this movement of opposition, and being called to appear before the courts to justify his action, he refused to obey the decree of the court, in consequence of which and his opposition to the ecclesiastical laws his property was confiscated, and he was made a prisoner at Ostrowa. He was made cardinal March 15, 1875, and in 1892 prefect of the propaganda. He died at Rome, Italy, July 22, 1902.

Ledru-Rollin, Alexandre Auguste, a French agitator; born near Paris, France, Feb. 2, 1807. He died in Fontenay, France, Dec. 31, 1874.

Ledyard, John, an American traveler; born in Groton, Conn., in 1751. He was a companion of Captain Cook in his third voyage round the world (1776–1780). He planned a journey through Northern Europe and Asia in the early part of 1788, but reached no farther than Irkutsk, Russia, where he was arrested on suspicion of being a spy, and was compelled to abandon his enterprise. In June of the same year he started on a voyage of exploration to Central Africa, under direction of the African Association, which was cut short by his death, in Cairo, Egypt, Nov. 17, 1789.

Ledyard, William, an American military officer; born in Groton, Conn., about 1750. He was in command of Fort Griswold, near New London, Conn., when it was attacked, Sept. 6, 1781, by an overpowering force of British under Lieutenant-Colonel Eyre. The fort was compelled to surrender and after this was done it is said that Ledyard was run through with his own sword (Sept. 7, 1781), by the English officer, Major Bromfield, who had assumed command on the death of his superior in command.

Lee, the side or quarter of a ship opposite to that from which the wind blows; the sheltered side; the shelter afforded by an object interposed and keeping off the wind.

Lee, Ann, founder of the Society of Shakers in America; born in Manchester, England, Feb. 29, 1736. She was poor and uneducated, and in 1758 joined the Shakers, a sect allied in their belief to the Friends, but who were peculiar in their form of worship. They practised curious dances

in which the whole body was shaken and thrown into strange postures. Ann Lee was married in 1762 to a blacksmith named Standerin, or Stanley. She believed herself inspired, and was imprisoned in 1770 for preaching the new doctrine of celibacy. In 1774 she emigrated to America and founded the Society of Shakers. She was greatly revered by her followers, and by them was called "Mother Ann." She died in Watervliet, N. Y., Sept. 8, 1784.

Lee, Arthur, an American diplomat and statesman; born in Westmoreland co., Va., Dec. 20, 1740. He was intrusted with missions to England and France, and conducted negotiations with France, Spain, Prussia and Holland, spending the years 1770–1780 in these duties. In the latter year he returned to America and was a member of Congress in 1782–1785. He died in Middlesex co., Va., Dec. 12, 1792.

Lee, Charles, an American military officer; born in Dernhall, Cheshire, England, in 1731. In 1775 he was made Major-General. He was captured by the British in 1776, and was exchanged in 1778. For disobedience of the orders of Washington at the battle of Monmouth in 1778, he was tried by court-martial and sentenced to one year's suspension from the army, and afterward was altogether dismissed by Congress. He died at Philadelphia, Pa., Oct. 2, 1782. Papers have been discovered showing that a "Mr. Lee," supposed to be General Lee, submitted to the British a plan for crushing the American cause, and indicating, therefore, that Lee's conduct at Monmouth may have been treasonable.

Lee, Eliza Buckminster, an American prose writer; born in Portsmouth, N. H., in 1794. She died in Brookline, Mass., June 22, 1864.

Lee, Fitzhugh. an American military officer; born in Clermont, Fairfax co., Va., Nov. 19, 1835. He was graduated at the United States Military Academy in 1856. At the outbreak of the Civil War he resigned his commission and entered the Confederate Army, rising through its grades to that of Major-General. He participated in all the battles of the Army of Northern Virginia, and was severely wounded at Winchester in 1864. He commanded a cavalry corps of the Army of Northern Virginia in 1865, surrendering to General Meade in March. He was governor of Virginia from 1886 to 1890. Appointed consul-general at Havana in 1893 he served there till 1898, and was at the head of affairs in Cuba during the period immediately preceding the outbreak of the war with Spain. The Spanish government endeavored, without success, to effect his recall. President McKinley having intended to send an additional message to Congress on April 6, 1898, the effect of which would have been an immediate outbreak of hostilities, Consul-General Lee forwarded him a dispatch, stating that he would not be able to secure the removal of American citizens from Cuba before the night of the 9th. The President thereupon withheld his message, and on the appointed evening the Americans in Cuba who wished to leave were all conveyed from the island. During the ensuing war with Spain he was a Major-General of volunteers, serving in Cuba, and becoming at the close of hostilities military governor of Havana. In 1900 he was made commander of the Department of the Missouri.

Lee, Francis Lightfoot, a signer of the Declaration of Independence and a brother of Richard Henry Lee; born in Stratford, Va., Oct. 14, 1734. He died in Richmond, Va., April 3, 1797.

Lee, Mrs. Hannah Farnham Sawyer, an American author, wife of George Gardiner Lee; born in Newburyport, Mass., 1780. Her works exerted considerable influence during the first quarter of the 19th century. She died in Boston, Dec. 27, 1865.

Lee, Henry, an American soldier; born in Leesylvania, Va., Jan. 29, 1756. He was graduated at Princeton College in 1774, and on the outbreak of the Revolutionary War joined Washington's army. He speedily won distinction for his dash and daring, being styled "Lighthorse Harry Lee." He led the army of 15,000 men that put down the "whiskey insurrection" in Pennsylvania in 1794. He first uttered the words, "First in war, first

in peace, first in the hearts of his countrymen," applying them to Washington, whose commemorative oration he delivered. He died on Cumberland Island, Ga., March 25, 1818.

Lee, Richard Henry, an American statesman; born in Stratford, Westmoreland co., Va., Jan. 20, 1732. He received part of his education in England, and after his return to his native country was chosen a delegate to the House of Burgesses from Westmoreland county. In the opposition to unjust British claims he played throughout a most important part, and on being sent as delegate from Virginia to the first American Congress at Philadelphia (1774) was at once recognized as a leader in that assembly. He drew up most of those addresses to the king and the English people which were admitted by his political opponents to be unsurpassed by any of the state papers of the time. When war became inevitable Lee was placed on the various committees appointed to organize resistance. On June 7, 1776, he introduced the motion finally breaking political connection with Great Britain. In consequence of weak health he was unable to serve in the field, but his activity as a politician was as unceasing as valuable. In 1784 he was unanimously elected president of the Congress, and when the federal Constitution was established he entered the Senate for his native State. In 1792 he retired into private life. He died in Chantilly, Va., June 19, 1794.

Lee, Robert Edward, an American military officer; born in Stratford House, Westmoreland co., Va., Jan. 19, 1807. He was graduated at United States Military Academy in 1829, and entered the United States army as 2d lieutenant, becoming 1st lieutenant in 1836, and captain two years later. In 1846 Lee was appointed engineer-in-chief to the United States army in Mexico; was brevetted major in April of that year for "gallant conduct at the battle of Cerro Gordo"; lieutenant-colonel in August, 1847, for distinguished bravery in the actions of Contreras and Churubusco; and colonel (Sept. 13, 1847), for eminent services at Chapultepec. After the close of the war Colonel Lee was reappointed a member of the United States Board of Engineers, and in 1852 was made superintendent of West Point Military Academy, which he held till March, 1855, when he was appointed lieutenant-colonel of cavalry. In 1861 he received his colonelcy, but resigned his commission within a month afterward, and offered his sword to his native State, Virginia, which had just seceded from the Union, and was then threatened by the National forces. His offer being promptly accepted, Colonel Lee was appointed commander-in-chief of the Virginia troops, with the rank of general in the Confederate army. He occupied himself with the placing of his troops in a state of perfect organization and equipment, till May, 1862, when he superseded Gen. J. E. Johnston in the command of the army intrusted with the defense of Richmond, at that time threatened by a formidable Union army under the command of General McClellan, his old companion-in-arms, and coassociate in the commission sent by the United States government, in 1854, to the Crimea, to report on the Allies' operations there. In the sanguinary campaign that ensued, the object of which was on one side the capture and on the other the defense of the Confederate capital, General Lee, aided by "Stonewall" Jackson, made a vigorous assault on McClellan's army, and succeeded, in a series of severe battles, known as the "Seven Days' Battles," in forcing it back from its position in front of Richmond. In August of the same year, General Lee forced the Union army under General Pope to fall back upon Washington. The campaigns he conducted in Maryland and Pennsylvania in 1862–1863, were, however, not so fortunate. After fighting a hotly-contested battle at Antietam, which was in effect a Union victory, Sept. 17, 1862, Lee was obliged to retreat across the Potomac; and though he held his own in the first day's battle at Gettysburg (July 1, 1863), he met with a disastrous repulse two days afterward, and was again compelled to retire across the Potomac. Previous to this, however, General Lee had defeated General Burnside's army at Fredericksburg, Dec. 12–16, 1862, and also defeated General Hooker at

Chancellorsville, May 1–4, 1863. From August, 1863, till May, 1864, General Lee was engaged in operations along the line of the Rappahannock, and fought a succession of desperate battles in the Wilderness, and from there S. to his old position before Richmond, during May, 1864. On Feb. 5, 1865, General Lee was appointed commander-in-chief of all the Confederate armies in the field, and till April in that year held the defenses of Petersburg and Richmond, fighting several battles to retain them. On April 2 he was at last dislodged from his intrenchments by superior forces, compelled to retreat from Petersburg, and eventually to surrender himself and army to General Grant, April 9, after a long and gallant contest with that great and successful Union commander, who treated the beaten Confederates with memorable generosity. General Lee was installed president of Washington College, Va., Oct. 2, 1865. He died in Lexington, Va., Oct. 12, 1870.

Lee, Stephen Dill, an American military officer; born in Charleston, S. C., Sept. 22, 1833. He was graduated at United States Military Academy in 1854. He served in the army till 1861, when he resigned to enter the Confederate service, rising through its military grades to that of Lieutenant-General. He fought gallantly in the battles around Richmond, at the second Bull Run and other engagements. After the Civil War he was prominent in organizations of Confederate veterans. In 1899 he became commander of the Vicksburg National Park.

Lee, William, an English inventor; born in Nottinghamsire, England, about 1560. He was a graduate of Cambridge University and best known as the inventor of the stocking frame. He presented a pair of silk stockings, knit by his machine, to the queen in 1598, but the hand-knitters violently opposing the introduction of machinery to do their work, he went to France. Meeting with no better success there he became greatly discouraged, and his death is said to have been the result of his disappointment. He died in Paris, France, about 1610.

Leech, any individual of the suctorial order Hirudinea, of which the best known examples are the horse-leech, and the medicinal leech. Leeches are employed for the local extraction of blood when cupping is not advisable. Care should be taken that they do not enter the mouth or any other cavity of the body. To destroy a leech in the stomach, injections of salt and water are used.

Leech, John, an English artist and humorist; born in London, England, Aug. 29, 1817. He died suddenly in London, Oct. 29, 1864.

Leeds, a manufacturing town of England, in Yorkshire. Pop. (1901) 428,953.

Leek, a biennial plant of the onion family, much esteemed for culinary purposes.

Leeward Islands, the W. section of the Lesser Antilles (so called in distinction from the Windward Islands with reference to the trade winds). The chief products are sugar and molasses.

Le Fanu, Joseph Sheridan, an Irish journalist and novelist; born in Dublin, Ireland, Aug. 28, 1814. He died in Dublin, Feb. 7, 1873.

Legacy, anything which is handed or passed down from an ancestor or predecessor.

Le Gallienne, Richard, an English author; born in Liverpool, England, Jan. 20, 1866. He was educated at Liverpool College. He served articles to a firm of chartered accountants for seven years; abandoned business for literature; for a few months was private secretary to Wilson Barrett, and later literary critic for the "Star." He finally settled in London. He has written and edited many books, and is a frequent contributor to American periodicals.

Legare, Hugh Swinton, an American statesman; born in Charleston, S. C., Jan. 2, 1789. He died in Boston, Mass., June 20, 1843.

Legate, an ambassador (a cardinal or bishop) sent by the Pope to a foreign prince or state.

Legation, the ambassador or envoy sent to any foreign court on a mission, together with his assistants; as, the legation of the United States.

Legazpe, Miguel Lopez de, a Spanish military officer; born in Zumarraga, Guipuzcoa, about 1510. In 1571 he conquered the island of Luzon and established the city of Manila in May of that year. He died in Manila, Aug. 20, 1572.

Legendre, Adrien Marie, a French mathematician; born in Paris, France, Sept. 18, 1752. He died near Paris in great poverty, Jan. 10, 1833.

Leger, Paul Louis, a French scholar and author; born in Toulouse, France, Jan. 13, 1843. He was Professor of the Slav Languages at the College of France, and did much to awaken an interest in the history and philology of the Slav peoples.

Legerdemain, sleight of hand; dexterity in deceiving the eye by the quickness or nimbleness of the hand; a trick performed so dexterously and adroitly as to elude discovery by the spectators; trickery, juggling; a juggle.

Leghorn, a walled city and seaport of Italy, on the Mediterranean Sea. Pop. 105,066.

Legion, a division of the ancient Roman army, consisting of a number of men varying at different periods from 2,000 to 6,000.

Legion of Honor, a French order of merit founded by Napoleon I., when first consul, as a reward for services or merit, civil or military. It consisted of various grades, as grand crosses, grand officers, commanders, officers, and legionaries. The constitution of the order has been often remodeled since it was established.

Legitime, François Denys, a Haitian soldier; born in 1842. Becoming minister under President Salomon, he resigned that post because he was accused of aspiring to the presidency, and retired to Kingston, Jamaica, where he remained three years. At the end of that period he returned to Haiti at the invitation of his followers, and on Oct. 7, 1888, was elected president of the provisionary government of Haiti. Thelemaque denounced the election as a job, and raised an army to make himself president, but he was killed in the battle which ensued. Legitime was elected president of Haiti, Dec. 17, 1888, but resigned in 1889, owing to the opposition of General Hippolyte. He lived in retirement in Jamaica till 1896, when President Sam granted a general amnesty, and he returned to Haiti.

Legros, Alphonse, a French painter and etcher; born in Dijon, France, May 8, 1837.

Leibnitz, or more correctly **Leibniz, Gottfried Wilhelm, Freiherr von,** one of the most celebrated scholars and philosophers that Germany has ever produced; born in Leipsic July 6, 1646. He died Nov. 14, 1716.

Leibnitz early directed his attention to mathematics, and attained great eminence in this science. Authorities seem generally agreed that he discovered the differential calculus independent of any knowledge of Newton's method of fluxions, so that each of these great men in reality attained the same result for himself.

Leicester, Robert Dudley, Earl of, an English noble and favorite of Queen Elizabeth; born June 24, 1532 or 1533. In 1588, on the threatened invasion of the Spanish Armada, Leicester was appointed Lieutenant-General of the kingdom, and died Sept. 4 in the same year.

Leichhardt, Friedrich Wilhelm Ludwig, a German explorer; born in Trebatsch, near Berlin, Prussia, Oct. 23, 1813. In 1841 he proceeded to Australia. There he conducted an expedition (1843–1848) from Moreton Bay, in Queensland, N. W. to the Gulf of Carpentaria, and then, skirting its S. and W. shores, finally reached Port Essington. In the end of 1846 he made an unsuccessful attempt to cross the base of Cape York Peninsula. In November, 1847, he again started from Moreton Bay with the intention of crossing the entire continent from E. to W., but he was lost in the interior. Nothing authentic was heard of him after April 3, 1848. The "Journal" of his first journey was published in London in 1847, and his "Letters" in German in 1881.

Leif Ericsson, a Scandinavian voyager who flourished about the year 1000 A. D. He is reported to have sailed from Iceland and to have discovered the American continent, and

in 1887 there was erected in Boston, Mass., a statue to "Leif the Discoverer." The discovery of America by the Northmen and their temporary settlement here is generally credited by Americans who have studied the evidence.

Leighton, Sir Frederick, an English artist; born in Scarborough, England, Dec. 3, 1830. He died in London, Jan. 25, 1896.

Leighton, William, an American poet; born in Cambridge, Mass., in 1833. He was educated at Harvard. He wrote: "The Sons of Godwin."

Leiningen, a princely house of Germany, dating back to 1096. The mother of Queen Victoria had for her first husband the Prince of Leiningen.

Leipoa, the "native pheasant" of the colonists of Western Australia; which in its habits is very like the domestic fowl.

Leipsic, a commercial city of Germany, kingdom of Saxony, on the White Elster (a tributary of the Saale). Pop. (1900) 455,120.

Leitch, William Leighton, a Scotch painter; born in Glasgow, Scotland, in 1804. He died in London, England, in 1883.

Leixner, Otto von, a German author; born in Saar, Moravia, April 24, 1847. Besides his poetical works he has also written short stories. His "History of German Literature" is a notable work.

Leland, Charles Godfrey, an American author; born in Philadelphia, Pa., Aug. 15, 1824. He was graduated at Princeton College in 1846, and afterward studied at Heidelberg, Munich, and Paris. He was admitted to the Philadelphia bar in 1851, but turned from law to journalism. From 1869 he resided chiefly in England, and investigated the language and customs of the gipsies, a subject on which between 1873 and 1890 he published four valuable works. Leland is most widely known, however, for his dialect poems in "Pennsylvania Dutch." In 1885 he edited "Art-work Manuals."

Leland, Stanford, Junior, University, a coeducational, nonsectarian institution in Palo Alto, Cal.; founded in 1891.

Lely, Sir Peter, an Anglo-Dutch painter; born in Soest, Westphalia, in 1617. He died in London, England, Nov. 30, 1680.

Lemaitre, François Elie Jules, a French dramatist; born in Vennecy (Loiret), France, April 27, 1853.

Lemay, Leon Pamphile, a Canadian author; born in Lotbiniere, Quebec, Jan. 5, 1837. "The Discovery of Canada," written by him, won him the gold medal awarded by Laval University.

Lemberg (formerly Lowenburg; Polish name "Lwow"), the capital of the Austrian kingdom of Galicia and Lodomeria. Pop. (1900) est. 135,000, of whom about 31,000 are Jews, while 92,000 speak Polish.

Lemercier, Nepomucene, a French poet; born in Paris, France, April 21, 1771. He died in Paris, June 7, 1840.

Lemming, or **Leming,** a rodent, inhabiting the mountainous regions of Sweden and Norway. Dark brownish-black, mixed with tawny on the back, fading into yellowish-white on the abdomen. Length about six inches, the tail being only half an inch. The lemming is remarkable for migrating at certain periods, generally at the approach of winter, in immense multitudes, in a straight line, apparently in obedience to some blind mechanical impulse. They move onward in parallel columns, and nothing will induce them to deviate from the straight line, the migration always terminating in the sea, and ending in the drowning of all that have survived the journey.

Lemnos, a Turkish island in the N. part of the Ægean Sea; 40 miles S. E. of Mount Athos and about the same distance S. W. of the Dardanelles. Area, 180 square miles; pop. about 30,000, all Greeks, except 5,000 Turks. It was conquered by the Persians in the reign of Darius Hystaspes; but Miltiades wrested it from them for the Athenians. In 1657 it passed into the hands of the Turks, from the Venetians.

Le Moine, James MacPherson, a Canadian historian; born in Quebec, Jan. 24, 1825. His historical works are so fair in spirit and accu-

rate in statement as to disarm adverse criticism.

Lemoine, Francois, a French historical painter; born in Paris in 1688. He painted the ceiling in the Hall of Hercules at Versailles, a painting 64 feet long and 54 broad, which occupied him seven years. In a fit of insanity he put an end to his life in Paris, June 4, 1737.

Lemon, the fruit of a small tree belonging to the same natural order as

LEMON.

the orange. There are many varieties of the lemon.

Lemon, Mark, an English humorist; born in London, England, Nov. 30, 1809. In 1841 he helped to establish "Punch," of which for the first two years he was joint-editor with Henry Mayhew, and thereafter sole editor till his death, in Crawley, Sussex, May 23, 1870.

Lemonnier, Camille, a Belgian novelist; born in Brussels, March 24, 1835. He is a pronounced realist.

Le Moyne, Charles, a French pioneer; born in Normandy, France, in 1626. Proceeding to Canada in 1641, he lived among the Huron tribe of Indians and fought with the Iroquois. In 1668 Louis XIV. made him Seigneur de Longueuil, and afterward also de Chateauguay. He was for several years captain of Montreal, and died in 1683.

Lemur, the name of the typical genus of the Lemurinæ. Habitat, Madagascar and the adjacent islands. It contains many species, the most important of which are described under their popular names. Generic characteristics: Long snout, small flat skull, long body, with narrow flanks. Hind limbs rather longer than the fore, long furry tail, hands and feet short, with a broad great toe; ears tufted or hairy, and moderate in length. In some kinds the head is surrounded by a ruff of fur; the color varies even in individuals of the same species. The true lemurs are diurnal orboreal animals, principally frugivorous, but feeding occasionally on birds' eggs, and even small birds.

The flying lemurs are represented by a single genus including a few species. The flying membrane or patagium, from which their peculiar characteristics are derived, connects the fore and hind limbs, extending along the sides of the body and of the neck and also joins the hind limbs and tail. The membrane also unites the digits of the foot, and is hairy on both sides. The fore limbs are longer and more powerful than the hind limbs. Neither the great toes nor thumbs can be opposed to the other digits; and the toes number five on each foot. These forms are arboreal in their habits, and make short flying leaps from tree to tree, the membrane acting like a parachute in supporting them during their flight or leap through the air. They are fruit-eaters, but also prey upon insects and birds. They are nocturnal in habits; and when at rest suspend themselves from trees by the limbs, the body and head being pendent. The mammary glands are four in number and are placed on the breast. All other Quadrumana possess only two mammæ. The most familiar species is that of Java and the neighboring islands. It measures about 20 inches in length.

Lemures, the general designation given by the Romans to all spirits of departed persons, of whom the good were honored as Lares, and the bad (Larvæ) were feared as capable in

their night journeys of exerting a malignant influence upon mortals.

Lena, a river of Eastern Siberia, rising amid the mountains on the N. W. shore of Lake Baikal, in the government of Irkutsk, flows first N. E. to the town of Yakutsk, where it is 6½ miles wide, then N. to the Arctic Ocean, into which it falls by several mouths, forming a delta 250 miles wide. Its course is 3,000 miles in length, the area of its basin 772,000 square miles.

Lenapes, Lenni-Lenapes, or **Delawares,** one of the Algonquin tribes of American Indians, which about the early part of the 16th century occupied the valleys of the Delaware and Schuylkill. They now occupy a reservation in the Indian Territory.

Leng, John, Sir, an English journalist; born in Hull, England, in 1828.

Lenient, Charles Felix, a French historical writer, born in Provins in 1826, Professor of Poetry in the Sorbonne from 1865. His books deal chiefly with France.

Lenormant, Charles, a French archæologist; born in Paris, France, June 1, 1802. He was Professor of Egyptian Archæology in the College de France from 1848 till his death in Athens, Greece, Nov. 24, 1859.

Lens, a transparent substance, usually glass, surrounded by curved surfaces so formed that rays of light passing through it are made to change their direction, and to magnify or diminish objects at a certain distance.

Lent, a holy season of long observance in some religious communions, especially the Episcopal, Roman Catholic and Greek churches.

Lentil, a small branching plant, about a foot and a half high; the leaves with 8 to 12 oblong leaflets, and pale blue flowers in twos and threes, and short legumes with two to four seeds. In Egypt and Syria lentils, parched in a frying-pan, are sold as nourishing food, especially for those who are going on long journeys. The lentils of Scripture were Ervum lens, the red pottage made by Jacob was composed of them (Gen. xxv: 34; II Sam. xvii: 28; xxiii: 11; Ezek. iv: 9).

Lenz, Oskar, a German traveler; born in Leipsic, April 13, 1848. He visited the W. coast of Africa in the service of the German African Society, and spent three years in exploring the course of the Ogowe. He next visited Morocco and Timbuktu.

Leo ("the lion"), in astronomy, the name given to one of the 12 zodiacal constellations in the midnight sky of spring.

Leo I., surnamed The Great, Pope, succeeded Sextus III. in 440. He took a very decided part against the Manichæans and other schismatics, held a council at Rome against Eutyches in 449, and presided by his legates at the General Council of Chalcedon two years later. When Attila invaded Italy, Leo I. was sent by the Emperor Valentinian to dissuade him from his threatened march on Rome, and Rome was saved. Leo I. afterward saved the city from being burned by Genseric. He is the first Pope of whom we possess any written works. He died in 461.

Leo X. (Giovanni de Medici), Pope, son of Lorenzo the Magnificent, sovereign of Florence; born in Florence, Italy, in 1475. He died in 1521.

Leo XIII. (Gioacchino Pecci), Pope; born in Carpineto, Italy, March 2, 1810. Was elected Pope in 1878, on the death of Pius IX. He died at Rome after a short illness, due to old age, July 20, 1903. He was noted for his personal good qualities, and his abilities as a statesman, and sought to bring the Roman Church into line with modern progress. In 1902 and 1903 the United States government, through Governor-General Taft, negotiated with the Pope to bring about the withdrawal from the Philippine Islands of members of religious orders said to be obnoxious to the natives and unfriendly to American rule.

Leon, an ancient kingdom of Spain, equivalent generally to the modern provinces of Leon, Palencia, Valladolid, Zamora, and Salamanca.

Leonardo da Vinci, an Italian painter, sculptor and architect, born in Vinci, Italy, in 1452.

Leonidas, a son of Anaxandrides, King of Sparta, succeeded his half-

brother, Cleomenes I., about 491 B. C. When the Persian monarch Xerxes approached with an immense army, Leonidas opposed him at the narrow pass of Thermopylæ (480 B. C.) with a force of 300 Spartans and rather more than 5,000 auxiliaries. The Persians attempted in vain to win over Leonidas by the promise of making him ruler of the whole of Greece; and when Xerxes sent a herald calling the Greeks to lay down their arms, the Spartans answered: "Let him come and take them." The treachery of one Ephialtes having made it impossible to bar any longer the progress of the foe, Leonidas and his little band, having sent away the auxiliary force, threw themselves on the swarming myriads and found a heroic death.

Leonides, or **Leonids,** popularly known as meteors; the finest of the meteoric rings which the earth cuts through in her annual revolution. It is encountered annually on Nov. 14. The magnificent display on Nov. 14, 1866, was from Leonides.

Leonowens, Anna Harriette Crawford, an Anglo-American educator; born in Caernarvon, Wales, Nov. 5, 1834. In 1863 she was appointed governess in the family of the King of Siam. She was four years in the king's household at Bangkok, acting as secretary to the king and instructor to the royal family. The King of Siam was educated by her. She came to the United States in 1867; opened a school in New York to prepare teachers in the kindergarten system.

Leopard, sometimes called the panther — "the pard" of Elizabethan writers. It has been known from early historical times, and has a wide geographical range, being found throughout the African continent, the whole of the S. of Asia, and in Ceylon, Java, Sumatra, and Borneo. It ranks third in importance in the family Feliedæ; varying in length from 3½–4½ feet; tail measurement 2½–3 feet, height at shoulder about 30 inches, but larger and smaller specimens have been met with. Color, pale fawn to rufous-buff, thickly studded with dark rosette-shaped spots, which unite and form bands on the medio-dorsal line, the hind-quarters, and legs; the tail is covered with similar spots; white beneath and on the inside of the limbs. The leopard is fierce and blood-thirsty, often killing far more than it can devour, either from love of slaughter or for the sake of the fresh blood, and lies in ambush for or steals stealthily on its prey, which consists of almost any animal it can overcome, though it is said to evince a preference for the flesh of dogs, and, strange to say, for that of persons suffering from smallpox. In India it often attacks women and children.

Leopardi, Giacomo, Count, an Italian poet; born in Recanati, Tuscany, Italy, June 29, 1798. He died in Naples, June 14, 1837.

Leopard Cat, a beautiful Indian species. Yellowish-gray to bright tawny, white below, longitudinally striped on head, shoulders, and back, spots on the side. Extreme length from 35 to 39 inches, of which about 12 are made up by the tail. Found in India from the hilly regions to Ceylon, and extends W. to Java and Sumatra. It is extremely fierce, and is said to drop on deer, and eat its way into the neck.

Leopard Wood, the wood of a tree of Trinidad and Guiana, allied to the cow tree.

Leopold I., Emperor of Germany, son of Ferdinand III.; born in 1640; died in 1705.

Leopold I., King of the Belgians; born in Coburg, Dec. 16, 1790. He died Dec. 10, 1865.

Leopold II., King of the Belgians; son of the preceding; born April 9, 1835. He was married in 1853 to Marie, Archduchess of Austria (born 1836; died Sept. 19, 1902), daughter of Archduke Joseph. He early manifested an interest in Africa and in 1885 he became sovereign of the Kongo Free State. During his reign there has been an extension of the suffrage and a spread of advanced ideas in Belgium. He is very wealthy, and is regarded as one of the best business men in Europe. He has expressed an intention to visit the St. Louis Exposition. On November 15, 1902, an attempt was made by an anarchist to shoot the king; who was not hurt.

Lepanto (anciently Naupactus, now called by the Greeks Epakto), a small town of Greece, and the seat of a bishop; on the N. side of the entrance to the Gulf of Corinth. Near Lepanto took place the celebrated naval battle between the Turks on the one side and the papal galleys and those of the Venetians and the Spaniards on the other, on Oct. 7, 1571, in which the Christians, commanded by Don John of Austria, achieved a decisive victory. Of the Turks 30,000 fell or were taken prisoners, while 130 Turkish vessels were captured, and 12,000 Christian slaves liberated; the Christians lost 8,000 men and 15 galleys. In this battle Cervantes lost an arm. The town became Greek in 1829.

Lepidoptera, an order of insects having the wings clothed with scales implanted in the wings, with their margins overlapping other scales; it is these, and not the wings themselves, that are so gayly colored. The wings are four.

Lepidosiren, a genus of fishes. The South American mud-fish, above three feet long, is found in the river Amazon. It has only five branchial arches with four intervening clefts, 55 ribs, small eyes, covered with skin. Sir Richard Owen shows that it is only by the organ of smell that it is proved to be a fish and not a reptile. Darwin believed that the reason why a fish of a pattern so antique has survived is, that it is an inhabitant of fresh water, where the struggle for existence is less severe than in the ocean.

Leprosy, a disease characterized by the formation of scaly patches on the skin, of different sizes, but having always nearly a circular form. It prevails in parts of the East, including Hawaii.

Lepsius, Karl Richard, a German Egyptologist; born in Naumburg, Dec. 23, 1810. He died in Berlin, July 10, 1884.

Le Queux, William, an English novelist; born in London, July 2, 1864.

Lerdo de Tejada, Sebastian, a Mexican statesman; born in Jalapa, Mexico, April 25, 1825; appointed a judge of the supreme court in June, 1857; was minister in June, 1857; was Minister of Foreign Affairs for a short time in the same year; member of Congress in 1861–1862 and in 1862–1863; was a companion of President Juarez in 1863–1867, during which time he was successively Minister of Justice and Minister of Foreign Affairs. He was elected chief-justice of the supreme court in December, 1867, and on the death of Juarez, July 18, 1872, he succeeded to the presidency; was elected to that post in the following November. In 1876 he was again candidate to succeed himself and after the election, which was in doubt, he was declared re-elected by Congress. This action resulted in a revolution and Lerdo was forced to leave the country. He lived in retirement in New York city, till his death, April 21, 1889.

Lerma, Francisco Gomez de Sandoval y Rojas, Duke of, a Spanish statesman; born about 1550. He died in 1625.

Le Roux (R. C. Henri), known as Hugues, a French journalist; born in Havre in 1860. In early life he was connected with the "Political and Literary Review," and subsequently succeeded Jules Claretie as writer of the Paris chronique in the "Temps." He is author of a series of popular romances.

Leroy-Beaulieu, Anatole, a French historian; born in Lisieux, in 1842. He became Professor of Modern History in the Free School of Political Sciences, 1881. His principal work, written after extensive travels in Russia, is "The Empire of the Tsars and the Russians."

Leroy-Beaulieu, Pierre Paul, a French economist; born in Saumur, Maine-et-Loire, Dec. 9, 1843. He was the founder and editor of "L'Economiste Francais." He is conservative in his views, and opposed to socialism.

Le Sage, Alain Rene, a French novelist and dramatist; born in Sarzeau, near Vannes, May 8, 1668. He died in Boulogne-sur-Mer, Nov. 17, 1747.

Lese Majesty. See Leze Majesty.

Leslie, Charles Robert, an American painter; born in London, Oct. 19, 1794, his parents being Americans. From 1848 to 1851 he was

Professor of Painting at the Royal Academy, England. He died in London, May 5, 1859.

Leslie, Eliza, an American prose-writer; born in Philadelphia, Nov. 16, 1787. She died in Gloucester, N. J., Jan. 2, 1858.

Leslie, Frank, an American publisher; born in Ipswich, England, in 1821; proper name, Henry Carter. At 17 he was placed in a mercantile house in London. "Frank Leslie" was the name he adopted in sending in sketches to the "Illustrated London News," and the success of these determined him to join the staff of that paper. In 1848 he came to the United States, where he asumed the name of Frank Leslie by a legal process, and in 1854 founded the "Gazette of Fashion" and the New York "Journal." "Frank Leslie's Illustrated Newspaper" was commenced in 1855 (German and Spanish editions later), the "Chimney Corner" in 1865; and afterward the "Boys' and Girls' Weekly," the "Lady's Journal," and a number of other periodicals were published by him. He died Jan. 10, 1880.

Lesseps, Ferdinand, Vicomte de (leseps), a French diplomat and engineer; born in Versailles, Nov. 19, 1805. He was employed several years in the French consular and diplomatic service. In 1854, on the invitation of Said Pasha, he visited Egypt to study the problem of canalizing the Isthmus of Suez; the results of his studies were stated in a memoir, "Piercing the Isthmus of Suez." He was made chief director of the works in 1856. The canal was opened to traffic Aug. 15, 1869. His attempt to pierce the Isthmus of Panama resulted in failure and a great political scandal. He died Dec. 7, 1894.

Lesser Civet, an æluroid mammal. Habitat: Nepal and Madras, Java and Formosa, and parts of China. Color yellowish or brownish-gray, with longitudinal bands on the back and regular spots on the side. The tail — from 16 to 17 inches long — has eight or nine complete dark rings. Length of body and head, about 24 inches.

Lessing, Gotthold Ephraim, a German critic, dramatist, and miscellaneous writer; born in Kamenz, Lusace, in 1729. He died in 1781.

Lesson, a reading, especially a portion of Scripture appointed to be read, as in the Common Prayer-book.

Lester, Charles Edwards, an American writer; born in Griswold, Conn., in 1815. He died in Detroit, Mich., 1890.

Lesueur, Eustache, a French painter; born in 1617. He died in 1655.

Lethe, in Greek mythology, the stream of forgetfulness in the lower world, from which souls drank before passing into the Elysian Fields, that they might lose all recollection of earthly sorrows.

Letter, a character used in printing. Type either of metal or wood. Used collectively to represent type, as "a case of letter," "a font of letter."

Letter of Marque, the commission authorizing a privateer to make war upon, or seize the property of, another nation. Letters of marque were abolished among European nations by the treaty of Paris in 1856.

Lettres de Cachet, the name given to the warrants of imprisonment issued by the kings of France before the Revolution.

Lettuce, a smooth, herbaceous, annual plant, containing a milky juice, and in general use as a salad.

Leucorrhœa, popularly called "whites," the name applied to an abnormal mucous or mucopurulent discharge from the female generative organs. It is a prominent symptom in many forms of female disease; and the treatment must be directed to the morbid condition on which it depends. Antiseptic or astringent vaginal douches are generally of use in diminishing the excessive secretion and the annoyance caused by it.

Leuctra, a village of Bœotia, in ancient Greece, famous for the great victory which the Thebans under Epaminondas here won over the Spartan King Cleombrotus (371 B. C.).

Leutz, Emanuel, an American artist; born in Gmund, Wurtemberg, May 24, 1816; was brought to the United States in infancy. He died in Washington, D. C., July 18, 1868.

Levant, a name given to those countries, and more especially to the coasts of those countries lying on the E. part of the Mediterranean and the neighboring seas, as Turkey, Greece, Egypt, Asia Minor, Syria, etc.

Levari facias, a writ of execution at common law, executed by the sheriff upon the goods and lands of a debtor.

Levee, the act or time of rising. In the United States this term is applied to any assemblage of guests, whether held in the morning or in the evening. In hydraulic engineering an embankment to restrain water, and of a magnitude such as those of the Mississippi, the Ganges, Holland, and the Po.

Level, a horizontal gallery or passage in a mine. The workings at different depths are said to be at the different levels — the 50 or 60 fathoms level, and so on.

Lever, Charles James, an Irish novelist; born in Dublin, Aug. 31, 1806. He obtained a diplomatic post at Florence about 1845, was appointed vice-consul at Spezzia in 1858, and in 1867 at Trieste, where he died, June 1, 1872.

Leverrier, Urbain Jean Joseph, a French astronomer; born in St. Lo, in Normandy, March 11, 1811. In 1854 Leverrier succeeded Arago as director of the Observatory of Paris, an office which, save during an interval of three years (1870–1873), he held till his death, Sept. 23, 1877.

Leviathan, a form of the Hebrew word "livyathan," meaning a long-jointed monster, applied in Job xli. and elsewhere in Scripture to an aquatic animal variously held to be the crocodile, the whale, or some species of serpent.

Levite, the descendants of Levi, one of the 12 sons of Jacob (Gen. xxix: 34). Moses and Aaron were of Levite extraction (Exod. ii: 1–10, iv: 14), and when the descendants of Aaron were formally set apart to perpetuate the priesthood, the other Levites were designated as a sacred caste to assist in the work of the sanctuary (Num. iii: 5–13, xvii: 2–8).

Levy, a term used for the compulsory raising of a body of troops from any specified class in the community for purposes of general defense or offense when the existing military forces are insufficient.

Lewald, Fanny, a German novelist; born of Jewish parents in Konigsberg, March 24, 1811. She died in Dresden, Aug. 5, 1889.

Lewes, the county town of Sussex, England, 50 miles S. of London. Race meetings are held three times a year near Mount Harry on the Downs, where, on May 12, 1264, a great battle was fought between Henry III. and the insurgent barons under Simon de Montfort.

Lewes, George Henry, an English critic and man of letters; born in London, April 18, 1817. Lewes was married unhappily and had children, when his connection with George Eliot began in July, 1854; it ended only with his death at their house in Regent's Park, Nov. 30, 1878.

Lewis, Alonzo, an American poet; known as the "Lynn bard"; born in Lynn, Mass., Aug. 28, 1794. He was the author of "Forest Flowers and Sea Shells," which reached 10 editions, and "History of Lynn." He died in Lynn, Mass., Jan. 21, 1861.

Lewis, Andrew, an American military officer; born in Ulster co., Ireland, in 1730. He came with his father to America in 1732. They settled in Bellfonte, Augusta co., Va., and were the first white residents of that county. Lewis was distinguished for his military ability, and for his great strength and commanding figure. He was an especial favorite of Washington, and his statue is one of the six which surround the Washington monument in Richmond, Va. He died in 1780.

Lewis, Charles Bertrand ("M. Quad."), an American journalist; born in Liverpool, O., 1842. He received his education at the Michigan Agricultural College. During the Civil War he served in the Union army. For many years he was on the staff of the Detroit "Free Press," and after 1891 connected with the New York "World."

Lewis, Dio, an American physician; born in Auburn, N. Y., March 3, 1823. He died in Yonkers, N. Y., May 21, 1886.

Lewis, Edmonia, an American sculptor of African and Indian descent; born near Albany, N. Y., in 1843. Her first known work was a bust of Colonel Shaw. She went to Rome, Italy, in 1867.

Lewis, Estelle Anna Blanche Robinson, an American dramatist; born near Baltimore, Md., April, 1824. She died in London, Nov. 24, 1880.

Lewis, Meriwether, an American soldier and explorer; born near Charlottesville, Va., Aug. 18, 1774. He was employed by the government with Clarke to make discoveries in the N. parts of the American continent, with a view to the extension of commerce to the Pacific Ocean. In 1805 they undertook a journey for the purpose of discovering the source of the Missouri; and they passed the winter in an icy region, 4,000 miles beyond its confluence. Lewis was soon after made governor of Louisiana, and Clarke a general of its militia, and agent of the United States for Indian affairs. He died near Nashville, Tenn., Oct. 8, 1809.

Lewis, Thomas Hayter, an English architect and author; born in London, July 9, 1818. He died there, Dec. 10, 1898.

Lexington, a town in Middlesex co., Mass., on the Boston and Maine railroad; 12 miles N. W. of Boston; contains the villages of Lexington, East Lexington, and North Lexington; and is principally engaged in farming, dairying and market-gardening. Lexington was settled in 1642 and was long known as Cambridge Farms, and was incorporated as a town in 1713. It was the scene of the first conflict between the colonists and British troops in the Revolutionary War, on April 18, 1775. The British obtained the advantage and destroyed the stores of the colonists, but lost in the action 273 men killed and wounded. Pop. (1890) 3,197; (1900) 3,831.

Lexington, The, an American brig of 14 guns, which, in April, 1776, after a sharp fight, captured the British armed tender "Edward." This was the first capture of any British war vessel by a regular American cruiser.

Lex Talionis, the law of retaliation, common among all ancient and barbarous nations, by which an eye for an eye and a tooth for a tooth was considered the appropriate punishment.

Leyden Battery, a number of Leyden jars connected externally by resting on a metallic surface, and internally by rods and wires.

Leze Majesty, a crime committed or attempted to be committed against the sovereign of a state. Among the Romans, crimen læsæ majestatis was a charge of treason, rebellion, or usurpation of office, which were considered as offenses against the majesty of the Roman people. In the United States this form of treason is without constitutional recognition (Const. U. S., Art. III, Sec. iii). Germany gives it very vigorous force in all criticisms of the emperor's acts or person.

Lhassa, the capital city of Tibet, and residence of the Grand Lama. The city is circular, 2½ miles in circumference, and occupies an open level plain surrounded by mountains. It has numerous towers, bazaars, and temples. The city is remarkable for the number and size of its monasteries, which are greatly resorted to by the Chinese and Mongols as schools of the Buddhist religion and philosophy. It is the "Rome of Buddhism." Pop. (1901) est. 25,000.

Li, or **Cash,** the only copper coin of China, with a square hole in the middle, and an inscription on one side. Ten lis make one candareen, 100 a mace, 1,000 a liang or tael, the only Chinese silver coin, average value about $1.20. Li is also a Chinese measure of length equal to about one-third of an English mile.

Libation, a sacrifice, by an actual drink offering, by pouring liquids — usually oil or wine — on the ground in honor of a divinity, or by the combination of both methods. In classic times bloody sacrifices were usually accompanied by libations, which always formed part of the religious ceremonies at a treaty of peace.

Libel, originally any little book or writing; a declaration, a certificate. A defamatory writing, print, picture, or publication of any kind, containing any statements or representations ma-

liciously made, and tending to bring any person into ridicule or contempt, or expose him to public hatred or obloquy; any obscene, blasphemous, or seditious publication whether in writing, print, signs, or pictures. The act or crime of publishing a libel; as, to be charged with libel.

In United States civil and admiralty laws, a document of the plaintiff setting forth the charges and allegations made against the defendant; and specifically in case of a ship, a statement of the claims held against her by the plaintiff.

Liberal, a name given to that party in England which is opposed to the Conservative party. Liberals who stand with the Conservatives on Irish questions are called Liberal Unionists.

Liberal Republican Party, a party organized in 1872 by Republicans who were dissatisfied with General Grant's first administration as President. At a convention held by them in Cincinnati, in that year, Carl Schurz was elected its president, and a platform adopted demanding civil service reform, local self-government, and universal amnesty, recognizing the equality of all men, recommending the resumption of specie payment, etc. Horace Greeley and B. Gratz Brown were named for President and Vice-President. This platform and these nominations were adopted by the regular Democratic convention of that year, but dissensions arose, and other candidates were nominated, the result being that the Republican nominee, General Grant, was elected by an overwhelming majority and the Liberal Republican party was thereafter practically dead.

Liberal Unionist Party, in British politics, a party composed of Liberals who formed an organization under the leadership of the Marquis of Hartington, who objected to Gladstone's Irish Government and Land Purchase Bills as being destructive of the integrity of the United Kingdom and dangerous to the empire. They gained their immediate object by coalescing with the Conservatives, and in the election which followed the defeat of the Gladstonian ministry they succeeded in returning some 80 members to Parliament. They have since acted with the Conservatives.

Liberia, a negro republic on the W. coast of Africa, founded in 1820 by liberated American slaves under the auspices of the American Colonization Society, and recognized as an independent State in 1847. It lies between the rivers San Pedro and Manna, has 500 miles of seaboard, and extends some 200 miles inland; area 14,000 to 15,000 square miles. The soil is fertile, well watered, and highly adapted to the cultivation of all tropical products. The chief crop is coffee, increasing quantities of which are grown from year to year and exported, other exports being palm-oil, groundnuts, caoutchouc, and ivory. The climate is very unhealthy for Europeans. British weights, measures, and moneys are mostly in use. The English language predominates among the governing class, churches and schools are provided, and civilization is making rapid strides among the natives. The population consists of some 20,000 immigrants from the United States and their descendants, and about 1,000,000 natives; Monrovia is the capital. The government of the republic is on the model of the United States.

Liberian Hippopotamus, a small species described by Dr. S. G. Morton from the notes of Dr. Goheen, colonial physician at Monrovia, and from two crania which that gentleman sent to America. It has but two incisors in the lower jaw; the posterior molars are only partially protruded, and rise obliquely like those of the elephant and mastodon. It varies in weight from 400 to 700 pounds.

Liberty, Cap of, a cap used as a symbol of liberty. In ancient times Roman manumitted slaves put on what was termed the Phrygian cap, in token of their freedom. In modern times the name cap of liberty was given to a red cap worn by French and other revolutionaries.

Liberty, Statue of, a colossal statue on Bedloe's Island, N. Y. On Oct. 28, 1886, after more than 12 years of preparation, the colossal statue of Liberty, given by the people of France to the United States, was dedicated and unveiled in New York harbor. The statue was the conception of M. Bartholdi, who designed it for the Franco-American Union in 1874. It was built by popular subscriptions of

the people of France, and required over five years for its completion.

BARTHOLDI'S STATUE OF LIBERTY.

Liberty Party, The, in the United States, grew out of the Anti-slavery Society, and was more widely known for the persistent agitation of its adherents than its numbers. In 1840 it nominated James G. Birney, secretary of the Anti-slavery Society, for president, casting 7,059 votes; and again, in 1844, when he received 62,300 votes.

Libraries, Public. These institutions have attained a remarkable development in the United States since 1890. The more notable American public libraries in 1901 were the Library of Congress at Washington, the New York Public Library (Astor, Lenox, and Tilden Foundations), the Boston Public Library and those of a like character in Chicago, Pittsburg, Newark and other cities. The statistics of public, society and school libraries show (1900) a total of 5,383, containing 44,591,851 volumes and about 6,000,000 pamphlets.

The public library movement in the United States has benefited incalculably through the benefactions of Andrew Carnegie.

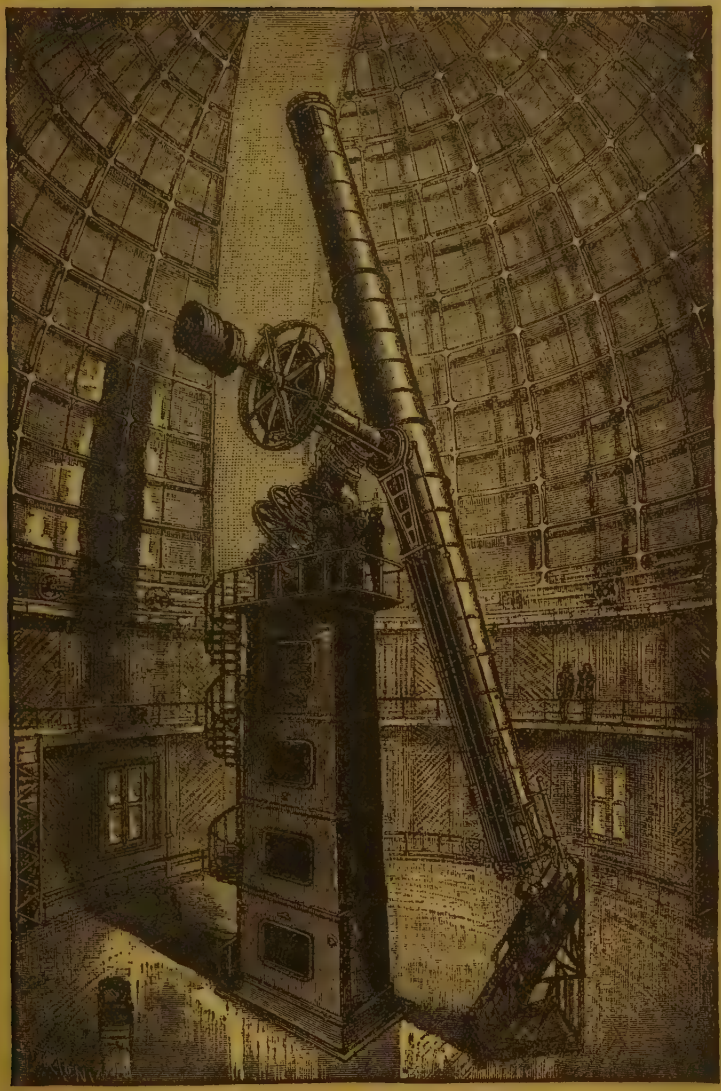
Libretto, the book of an opera. In too many cases it is deplorable, from the absence of any literary quality, plot, or consistency.

Libya, the name given by the oldest geographers to Africa. In Homer and Hesiod it denoted the whole of this quarter of the globe, except Egypt; in Herodotus, occasionally, the entire continent; but it is also applied by others, in a more restricted sense, to the N. part of the country, from Egypt and the Arabian Gulf W. to Mount Atlas. The great sandy tract, of which the Sahara forms the principal part, was called the Libyan Desert. To what extent it was known to the ancients is not very clearly ascertained.

Lichens, familiar plants which form encrusting growths on rocks and stones, on the stems and branches of trees, on walls and fences, and on the earth itself. They are common in every zone, and at all levels from the seashore to the mountain summit.

Lichtenstein, an independent principality of Europe, separated from Switzerland on the W. by the Rhine; on the E. it is bounded by Vorarlberg; area, 61 square miles; pop. 9,434.

Lick, James, an American philanthropist; born in Fredericksburg, Pa., Aug. 25, 1796. In 1819 he was employed in a piano factory in Philadelphia, and a year later started in the same business for himself in New York, and afterward in various parts of South America. In 1847 he emigrated to California, taking with him $30,000, which he invested in real estate in San Francisco, and its rapid advance in value made him wealthy. In 1874 he placed his entire property in the hands of trustees, to be devoted to public and charitable purposes. The bequests he then made he changed in some respects in May, 1875. The total amount thus given was $1,765,000, of which $700,000 was for Lick Observatory, to be connected with the University of California, $150,000 for free public baths in San Francisco, and $540,000 for an institution to be called the California School of Mechanical Arts. For himself he re-



LICK OBSERVATORY, INTERIOR.

served $500,000, gave his son $150,000, and each of his relatives sums varying from $2,000 to $5,000. He died in San Francisco, Cal., Oct. 1, 1876.

Lick Observatory, an astronomical station; on the summit of Mount Hamilton, Santa Clara co., Cal.;

LICK OBSERVATORY, EXTERIOR.

erected through the liberality of James Lick, the testator imposing in the trust-deed the obligation of erecting "a powerful telescope, superior to and more powerful than any telescope yet made." It was mounted in 1887, and was first used in 1888.

Liddell, Henry George, an English lexicographer; born in 1811. He died Jan. 18, 1898.

Lie, Jonas Laurits Idemil, a Norwegian novelist, son of a lawyer; born in Eker Nov. 6, 1833. His novels give admirable realistic pictures of life in Norway, especially of the fisher-folk of the W. coast. His popularity is due to the delicate poetry that lights up his books, to the healthy tone of his writing, his fidelity to nature, and his genial humor.

Lieber, Franz, an American publicist; born in Berlin, Germany,

March 18, 1800. He volunteered as a soldier at 15, and was in the battles of Ligny, Waterloo, and Namur. He served also in the Greek war of independence, recording his experiences in "Journal in Greece" (1823). He settled in the United States in 1827. While Professor of History and Political Economy in South Carolina College, he wrote the works on which his fame mainly rests. In the beginning of the Civil War he drew up by order of President Lincoln the "Code of War for the Government of the Armies of the United States in the Field." He died in New York, Oct. 2, 1872.

Lieber, Oscar Montgomery, an American mineralogist and chemist; born in Boston, Mass., Sept. 8, 1830; son of Francis Lieber. He died in Richmond, Va., June 27, 1862.

Liebig, Justus, Baron von, a German chemist; born in Darmstadt May 12, 1803. No other chemist of great rank has so sedulously striven to make the science a tender to practical utilities.

Liebknecht, Wilhelm, a German socialist; born in Giessen, March 29, 1826. He was editor-in-chief of the organ of the Social Democratic party, "Vorwarts"; author of "The Fundamental Question" (1876); "A Glance at the New World" (1887), recounting his observations during a visit to the United States, etc. He sat for years in the Reichstag as a member of the Social-Democratic party and was often arrested and exiled. He died in Charlottenburg, Aug. 6, 1900.

Liege, a town of Belgium, capital of the province of Liege, on the Maese, 54 miles S. E. of Brussels. Pop. 169,202.

Lien, a legal claim on or upon property; a legal right in one person to detain the goods of another until some claim of the former against the latter has been satisfied.

Lieutenant, an officer, civil or military, who supplies the place of another temporarily during absence, illness, etc. In the army, a commissioned officer ranking next below a captain. In the navy, a commissioned officer ranking next below a lieutenant-commander.

Lieutenant-colonel, in the regular army, is the officer next in rank to a colonel, and the senior of a major. He has actual command of a regiment, and is responsible for the discipline and comfort of the troops under his command and for the various details of their organization.

Lieutenant-general, a general officer in the army; ranking above a Major-General and below a general. The office of lieutenant-general was first created by Congress for George Washington in 1798, during the troubles between the United States and France. It then lapsed till renewed by Congress for Gen. Winfield Scott, who was made lieutenant-general by brevet. In 1864 it was again revived for Gen. U. S. Grant, and continued for Generals Sherman and Sheridan. The grade was also conferred on Gen. John M. Schofield, Feb. 5, 1895, who held it till his retirement, Sept. 29, following. An act of Congress of June 6, 1900, provided that "the senior Major-General of the line commanding the army shall have the rank, pay and allowances of a lieutenant-general"; and on the reorganization of the army in February, 1901, the grade was revived and President McKinley appointed Maj.-Gen. Nelson A. Miles its incumbent. General Miles retired in August, 1903.

Lieutenant-governor, an officer of several of the States, of rank next below a governor. He performs the duties of a governor in case of the latter's death, absence from the State, or inability to act.

Life Insurance. American life insurance is today on a footing as firm as that of any business in the world. There are degrees, of course, of excellence represented in the management of American companies, but taking not only the more successful but the average of the institutions, it may be confidently asserted that no safer or more carefully conducted financial enterprises exist.

The number of persons holding policies in the American companies of all kinds at the present time is probably upward of 11,000,000. Of these, say about 1¼ per cent., or 137,500, may be taken as the number dying in a year. Taking five persons as the average number in each family, there

would remain an average of four beneficiaries on the death of each person insured, or about 550,000 persons in 1899 benefited by the payment of about $133,000,000 in death losses by all the companies. As a means of distributing wealth and protecting the unfortunate at the cost of the more fortunate, nothing could be devised which would more nearly approach the ideal than the system of American life insurance. And all these figures are annually increasing.

Life-Saving Service, a branch of the Treasury Department of the United States government.

In 1901 there were 268 stations in all. Of these 194 were on the Atlantic Coast, 58 on the Great Lakes, 15 on the Pacific Coast, and 1 at the Ohio Falls, Louisville, Ky. During the fiscal year ending July 30, 1900, there were 364 disasters to ships, in which 61 vessels were totally lost. Of the 2,655 persons involved 48 were lost. The value of the property involved was $9,470,190, of which $2,235,500 was lost.

Light, the natural agent which, by acting on the retina, excites in us the sensation of vision. Two leading hypotheses regarding its nature have been formed: the one the emission or corpuscular theory, which, though supported by the great name of Sir Isaac Newton, has been abandoned, and the other the undulatory theory, which now obtains. The latter assumes the existence everywhere through the universe, or the portion of it with which we are connected, of an extremely subtle elastic medium, called luminiferous ether, the undulations of which constitute light, and when they impinge on the retina produce vision. The particles agitated are not transmitted but only the disturbance. The movements are held to be strictly analogous to the undulations of the atmosphere which produce and convey sound; or, as the word undulation imports, those of the ocean in producing waves. Several methods of calculating the velocity with which light is transmitted are known. By one, the size of the minute circle through which the aberration of light makes stars apparently revolve is carefully noted, and the relative proportion of the earth's velocity in her orbit to that of light arriving from the stars ascertained. The result is that light is found to move about a hundred thousand times as fast as the earth, which gives the velocity about 190,000 miles per second.

Lighter, a barge for transporting merchandise and stores, on rivers and canals, over bars, and to and from vessels moored in a stream, or where they cannot be laden from or discharged on to a wharf or pier alongside.

Lighthouse, a lofty tower or other structure, erected at the entrance of a harbor, or at some important or dangerous part of a coast, and having a strong light at the top, to guide vessels and warn them of danger. Originally they were lighted up with fires, but now oil, gas, and electricity are used, the power of the light being increased by the adoption of glass reflectors, lenses, and prisms.

In the United States these matters are under the supervision of the Lighthouse Board. At the close of the fiscal year 1900 there were under the control of the Lighthouse Establishment 1,243 lighthouses and lighted beacons; 44 light vessels in position; 8 light vessels for relief; 82 electric and gas buoys in position; 172 fog signals operated by steam or hot air; 221 fog signals operated by clockwork; 1,396 postlights on Western rivers; 475 day or unlighted beacons; 73 whistling buoys in position, and 120 bell buoys in position.

Lightning, the dazzling light emitted by a large spark darting from clouds charged with electricity. In the lower regions of the atmosphere it is white, in the upper one somewhat violet, as is the spark of an electric machine in a vacuum. It does not uniformly take the zigzag form conventionally represented. The writer has seen it descend to the earth in a bluish stream by a series of curves. Again, he has seen it like a sharp and rugged antler standing upright, and across it a line of gleaming circles like a series of huge golden coins or a string of illuminated beads, and other forms. In the upper regions of the sky, where the air is rarefied, it tends to take the form of sheet-lightning; sometimes called heat lightning;

in the lower regions it becomes more concentrated and moves in lines. As a rule lightning strikes objects from above, though occasionally ascending lightning has been seen. The loftiest buildings are most in danger from its effects, and so are tall trees, especially oaks and elms; the resin of pines, interfering with their efficiency as conductors, makes them more safe. When it sinks deèply into the ground it sometimes vitrifies the rocks, producing fulgurites. Light travels with such speed that a flash is seen the instant it occurs. Thunder, which is simply the noise of the explosion, takes about five seconds to travel a mile, hence the distance of any flash, followed by thunder, may be calculated. If a mile distant, the danger is but slight.

Lightning Conductor, an appliance designed to protect a building and its inmates against destruction or damage by lightning. It was invented by Benjamin Franklin in 1755.

Lightship, or **Lightboat,** a vessel serving as a lighthouse in positions where a fixed structure is impracticable. Octagonal lanterns, fitted with Argand lamps placed in the foci of parabolic reflectors, are usually hoisted on the mast; but they are less efficient and more expensive in maintenance than land lights.

Lignite, fossil wood, generally of Tertiary age, converted into a kind of coal.

Lignum Vitæ, the wood of Guaiacum officinale. It is a very hard and heavy wood, brought from Cuba and other West Indian Islands. When first cut it is soft and easily worked, but on exposure to the air it becomes much harder.

Ligny, a Belgian village, famous for the defeat of the Prussians under Blucher by the French under Napoleon, June 16, 1815, the same day on which Ney's command was engaged with the British under Wellington at Quatre-Bras. The Prussians lost 12,000 men and 21 cannon; the French, 7,000 men.

Liguori, Alfonso Maria de, a saint of the Roman Catholic Church, and founder of the congregation of the Most Holy Redeemer; born in Marianella, near Naples, in 1867. He died in Nocera dei Pagani, Aug. 1, 1787, and was solemnly canonized in 1839.

Liguria, a district of ancient Italy, the whole territory of Genoa and Nice.

Li Hung Chang, a Chinese statesman and diplomatist; born in Ho Fei, province of Anhwei, China, Feb. 16, 1823. He was a friend to foreigners and to Western civilization and culture. In 1896 he made a tour of the world, traveling overland and was everywhere received with éclat as a highly distinguished guest. He acted a prominent part in adjusting the relations of China with foreign powers after the suppressing of the uprisings of 1900–1901. He died in Peking, China, Nov. 7, 1901.

Lilac. The common lilac is one of the most common ornamental shrubs cultivated in North America. It is a native of the N. of Persia, and was first brought to Vienna in the latter half of the 16th century by Busbecq, to whom we also owe the introduction of the tulip.

Liliuokalani, Queen of Hawaii; born Sept. 2, 1838. She was a sister of King Kalakaua, whom she succeeded as queen. She married John O. Dominis, an American, who became governor of Oahu. He died in 1891 and in the same year she ascended the throne. In 1893 she was deposed, the islanders adopting a republican form of government. She used every effort to regain her supremacy and endeavored to secure assistance from the United States, visiting Washington in 1896 for that purpose, but was unsuccessful in interesting the government in her behalf. On the annexation of Hawaii to the United States, in 1898, she returned to the island. She revisited the United States in the winter of 1901–1902 to press her claims for indemnity on the crown lands.

Lille (Flemish Ryssel), a manufacturing town and fortress of France, chief town of the department of Nord, situated on a sub-tributary of the Scheldt, in a fertile district. Pop. (1901) 215,431.

Lilliput, the name of a fabulous kingdom described by Swift in "Gulliver's Travels," of which the inhabitants are not greater in size than an ordinary man's finger.

Lily, Gigantic, of Australia, a plant with flowering stem 10 or 14, sometimes 20 feet high, bearing at top a cluster of large crimson blossoms.

Lily of the Valley. Recently this plant has been largely and successfully used in medical practice in cases of heart disease, especially in valvular derangements of that organ.

Lima, the capital of Peru; at the foot of granitic hills; 7 miles from Callao, its port on the Pacific, on the Rimac river. It is regularly built, and many of the streets have a stream of water running down the center. The numerous domes and spires give Lima a fine appearance from a distance, but the houses are mostly of unburnt brick. Among the public buildings and institutions the cathedral, the convent of San Francisco, the exhibition palace, and the university with its national library and museum, deserve special mention. The manufactures are unimportant, but there is a considerable import and export trade through the port of Callao. The climate is very agreeable, but the locality is subject to earthquakes, the most destructive being that of 1746. Lima was founded in 1535 by Pizarro, and called Ciudad de los Reyes (City of the Kings). In January, 1881, Lima capitulated to the Chileans, who occupied it for upward of two years. Pop. (1902) 298,106.

Lime, the oxide of the metal calcium, which was discovered by Davy in 1808, who obtained it by the electrolysis of calcium chloride. The metal is difficult to prepare and has only been obtained in small quantities. It combines with oxygen so readily that it can only be preserved with difficulty. In combination with oxygen it is, however, exceedingly abundant in nature.

Lime, a tree, more fully called the sweet lime. It grows about eight feet high, with a crooked trunk and many-diffused branches armed with prickles. The leaves are ovate-lanceolate, nearly entire. The fruit, which is greenish-yellow, is almost globular, except that there is a protuberance at the top; the surface is regular; shining rind. It is about an inch and a half in diameter. The juice is very acid. There are various cultivated varieties. Some think it a variety of the citron.

Lime Light, or **Drummond Light,** a light of extreme brilliancy, invented by the English Lieutenant Drummond, consisting of a jet of oxygen and hydrogen, mixed in the proportions to form water, directed upon a cylinder of lime. The lime, which is infusible, becomes white-hot, and emits a pure white brilliant light of such intensity that it has been distinctly seen at a distance of 112 miles.

Limited Liability. Liability is said to be limited when the persons liable are bound under clearly-defined conditions. The phrase is chiefly used in connection with stock companies, and in that connection it means that the stockholders shall not be called upon, under any circumstances, to contribute more than the par value of the shares of stock for which they have subscribed. If the debts of such a company, when wound up, amount to more than the resources of the company can meet, the creditors must bear the loss.

Limited Monarchy, a monarchy in which the power of the sovereign is not absolute, but is constitutionally limited, usually by assemblages of the nobility, clergy, and elected representatives of the people. The sovereignty is a headship more or less real; it is not an autocracy.

Limpet, a popular name for certain prosobranchiate gasteropods. Limpets are world-wide in their distribution. They are vegetable feeders, and inhabit rocks between tidemarks, returning to the same place after feeding, and adhering so firmly that it requires a great effort to detach them from their resting-place, which is worn into a smooth concavity beneath the foot of the animal. It is much used by fishermen for bait, and in times of scarcity, for food. Vast quantities fall a prey to the sea and shore birds. The oyster catcher is exceedingly dexterous in detaching these mollusks from the rocks, and scooping the animals from their shells.

Lincoln, a city, capital of the State of Nebraska, and county-seat of Lancaster co.; 55 miles S. W. of Omaha. Pop. (1900) 40,159.

Lincoln, Mount, a peak of the Rocky Mountains, in Colorado, about 8 miles N. E. of Leadville, reaching a height of 14,297 feet. A railroad has been constructed to the silver-mining works at the summit, and here is a meteorological station conducted by Harvard College, another station being placed at a lower level (13,500 feet).

Lincoln, Abraham, an American statesman and 16th President of the United States; born in Hardin Co., Ky., Feb. 12, 1809. He removed with his family in 1816 to Spencer Co., Ind., and for the next 10 years was engaged in hard work of various kinds, having only about a year's schooling at intervals. In 1830 the family removed to Macon Co., Ill., and subsequently he was for some time in charge of a store and mill at New Salem. On the breaking out of the Black Hawk war in 1832 he joined a volunteer company and was elected captain of it, a promotion which gave him more pleasure than any subsequent success in his life. He served three months in the campaign. He next opened a country store which did not succeed; was appointed postmaster of New Salem, and began to study law by borrowing books from a neighboring lawyer. At the same time he turned amateur land surveyor. In 1834 he was elected a member of the Illinois Legislature, to which he was again returned at the three following biennial elections. In 1836 he was licensed to practise law, and in 1837 he removed to Springfield and opened an office in partnership with Maj. John F. Stuart. He soon became distinguished as an advocate in jury trials. He still continued to take a prominent part in party politics, and in 1844 he canvassed the whole of Illinois and part of Indiana making almost daily speeches to large audiences on behalf of Henry Clay. In 1846 he was elected a Representative to Congress. He voted steadily in Congress with the Anti-slavery party, especially opposing the extension of slavery to new territories. In 1849 he was a candidate unsuccessfully for the United States Senate. Till 1856 he continued to pursue his profession taking at the same time an active share in party political movements in Illinois. In the presidential election of that year he worked strenuously for Fremont, and his own name was mentioned in connection with the vice-presidency.

In 1858 he was nominated by the Republican State Convention as candidate for the United States Senate in opposition to Stephen A. Douglas. The two candidates canvassed the State together, addressing everywhere the same meetings. In this canvass when pressed by his opponent he admitted the right of the Southern States to a fugitive slave law and declared that while determined to keep slavery out of the territories, if any territory demanding admission to the Union should deliberately adopt a slave constitution he saw no alternative but to admit it into the Union. He gained a majority on the popular vote of about 4,000, but Douglas was elected Senator by the Legislature by a majority of eight on joint ballot. This defeat only inspired Lincoln and his supporters with fresh determination and induced them to aim at a higher achievement.

In the Republican National Convention held at Chicago in May, 1860, he was nominated as a candidate for the presidency and after several votes for diminishing the number of candidates, in which he ranked below Seward, he gained a majority over him and was eventually chosen unanimously. The other candidates for the presidency were Breckinridge and Bell and his old opponent Douglas. This division of his opponents proved fatal to the Democrats or Southern party, who for a long period had uniformly carried the presidential elections. Lincoln had a majority of very nearly 500,000 votes over Douglas, while the other two Democratic candidates divided more than 1,250,000 votes between them. The Southern States, exasperated at this defeat, and alarmed at the aggressive anti-slavery policy which many of the leading Republicans had proclaimed their determination to follow in the event of success, refused to acquiesce in Lincoln's election, and on the doctrine of the sovereignty of the States and the voluntary character of the Union, began one after another to announce their secession and to organize the means of resisting the enforcement of the

claims of the Federal government. This movement began during the closing period of the administration of Buchanan, the interval which, according to the Constitution, intervenes between the election of a President and his assumption of office. This circumstance was probably unfortunate for Lincoln, as no position could be less suitable for resisting such movements than that of a retiring President, and when Lincoln took the reins, secession had had time to acquire irresistible impulse. The election of Lincoln took place in November, 1860, and he assumed office on March 4, 1861. In this fatal interval the time of conciliation if it had ever existed passed away. It was the intention of Lincoln to use every means of conciliation consistent with the policy he deemed it essential to the national interest to pursue. On one point, however, his resolution was steadfast, to admit no secession, and before his assumption of office secession was as resolutely determined on, by the other side. On Feb. 4 the Southern Confederacy had been constituted, and on April 14 the first blow in the Civil War was struck by the capture of Fort Sumter by the Confederates.

The events of the next four years in Lincoln's career belong to the history of the United States, where they will be dealt with in more detail. The spirit in which the war was conducted by the President, and his qualifications for guiding the State through the crisis in its affairs, of which his election had been the occasion, were aptly indicated in his advice to his generals when the long succession of Southern victories had raised keen discussion in the North as to the proper policy for pursuing the war. While not indifferent to suggestions as to tactics, the President's final prescription was to "keep pegging away"; and it was his persistence in raising and pouring in fresh troops after every disaster that, in spite of deficient generalship and faulty tactics in their earlier campaigns, finally enabled the Federal government to subdue the secession. Without this, which was Lincoln's share of the work, the military capacity of Grant and Sherman would never have had the opportunity of becoming manifest. Another feature of President Lincoln's policy which demands notice was displayed in his successive proclamations abolishing slavery. As we have seen, this formed no part of his previous policy as a statesman. It was suggested by the exigencies of war, but a revolution of such social magnitude could never have been undertaken on the dictation of a war policy alone. The toleration of slavery was always in Lincoln's opinion an unhappy necessity; and when the Southern States had by their rebellion forfeited their claim to the protection of their peculiar institution, it was an easy transition from this view to its withdrawal.

The successive stages by which this was effected — the emancipation of the slaves of Confederates, and the offer of compensation for voluntary emancipation, followed by the constitutional amendment and unconditional emancipation without compensation — were only the natural steps by which a change involving consequences of such vast extent is reached. The determination of the Northern States to pursue the war to its conclusion on the original issue led to the reëlection of Lincoln as President in 1864. The decisive victory of Grant over Lee on April 2, 1865, speedily followed by the surrender of the latter, had just afforded the prospect of an immediate termination of this long struggle when, on the 14th of the same month, President Lincoln was shot in Ford's Theater, Washington, by John Wilkes Booth (brother of the better-known actor Edwin Booth), and expired on the following day. Booth, who escaped for the time, had no personal enmity toward the President but was a fanatical adherent of the Southern cause. Vice-President Andrew Johnson at once became President. Lincoln received a magnificent funeral, being buried in Oak Ridge Cemetery, near Springfield, Ill., where a fine monument to his memory was dedicated in 1874.

This sudden and unexpected termination of Lincoln's career gave a sort of sanctification to his character and time has not lessened the veneration and affectionate regard which the citizens of the republic entertain for him. He is universally looked upon as the savior of his country and Washington

himself holds no higher place in the hearts of the American people. Simple and even careless in dress and demeanor, shrewd and penetrative in his judgment of men, humorous himself and fond of humor in others, he was much more of a representative American than Washington.

Lincoln, Benjamin, an American military officer; born in Hingham, Mass., Jan. 24, 1733, and lived as a simple farmer till he was 40 years of age. On the breaking out of the Revolution he began his military career and was rapidly promoted. Appointed chief in command of the S. division of the army, he led the American forces against the British at Charleston and Savannah. He was forced to capitulate when in possession of the former place, by Sir Henry Clinton, in 1780. Notwithstanding the failure of his Southern campaign, the bravery and capacity of Lincoln were left untarnished, and after being imprisoned, he was, on his exchange in 1781, received with honor by Washington and appointed to the command of the central division at the siege of Yorktown. On the surrender of Cornwallis he was deputed to receive the submission of the captured troops. In 1781 he was chosen by Congress Secretary of War, and served in that office for three years, when he returned to his farm; but was called in 1786 and 1787 to command the militia in repressing Shay's insurrection. In 1787 was elected Lieutenant-Governor of Massachusetts. In 1789 was made collector of the port of Boston, which post he held for 20 years. In 1789 was commissioner to treat with the Creek Indians; and in 1793 again, to make peace with the Western tribes. He was the author of various papers, historical, agricultural, etc. He died in Hingham, Mass., May 9, 1810.

Lincoln, Robert Todd, an American diplomatist; born in Springfield, Ill., Aug. 1, 1843; eldest son of Abraham Lincoln; was graduated at Harvard College in 1864; served on the staff of General Grant as assistant adjutant-general; was admitted to the bar in 1867; Secretary of War in 1881–1885; minister to Great Britain in 1889–1893; and became president of the Pullman Palace Car Company in 1897.

Lindau, Paul, a German author; born in Magdeburg, June 3, 1839. He trained himself for journalistic work in Paris, returned to Germany in 1863, and edited various journals. He labored in three or four fields of literary activity. Among the earliest fruits of his industry were pleasantly-written books of travel. But he is perhaps better known as a writer of plays and novels, the subjects of which are taken almost exclusively from modern life. He became in 1895 manager of the court theater at Meiningen.

Lindau, Rudolf, a German diplomat and novelist; born in Gardelegen, Oct. 10, 1830. He was for many years engaged in the consular and diplomatic service of Switzerland and Germany.

Lindner, Theodor, an Austrian historian; born May 29, 1843. Among his numerous works are: "German History under the Hapsburgs and Luxemburgs" and "History of the German People" (1894).

Lindsey, William, an American poet and prose-writer; born in Fall River, Mass., Aug. 12, 1858.

Linen, a general name for a cloth of very extensive use, made of flax, and differing from cloths made of hemp only in its fineness. The manufacture of linen was introduced into the United States by the establishment of a large mill in 1834 at Fall River, Mass., and the industry since that time has become largely extended.

Ling, a northern fish, found as far N. as Iceland. Back and sides gray, inclining to olive, belly silvery, ventrals white, dorsal and anal edged with white, caudal marked with transverse black bar, tip white. The fish are split from head to tail, cleaned, soaked in brine, washed and dried, and then are known as stock fish. The liver yields an oil used by the fishermen in their lamps, and it has been employed as a substitute for cod-liver oil.

Lingard, John, an English historian; born in Winchester, England, Feb. 5, 1771. He died in Hornby, Lancashire, England, July 17, 1851. His works were written from the standpoint of Roman Catholicism.

Lingua-Franca, the corrupt Italian which has been employed, since the period of the Genoese and Venetian supremacy, as the language of commercial intercourse in the Mediterranean, especially the Levant. Any language which serves a similar purpose, as, for instance, Swahili and Haussa in Africa, and the Chinook jargon in the N. W. part of the United States, is called generically a lingua-franca.

Linnæan Society, a society founded to carry out those botanical and zoölogical investigations with regard to which Linnæus, in his "Systema Naturæ," had led the way. It was founded in 1788, and incorporated on March 26, 1802. In 1791 it began to publish "Transactions."

Linnæan System, the sexual system of botany introduced by Linnæus, which, though unequaled for the aid it affords in finding the name of a flower, yet labors under the fatal defect that it is purely artificial. Previous to his time, Jung, rector of the gymnasium at Hamburg, who died in 1657, had introduced the Latin botanical nomenclature. Tournefort, who died in 1708, had been the first to classify plants into strictly defined genera. It remained for Linnæus to arrange them, and define the several genera and species scientifically. He divided the vegetable kingdom into 24 classes.

Linné, Karl von, commonly called Linnæus, the greatest botanist of his age; born in Rashult, Sweden, May 13, 1707. He died in Upsala, Jan. 10, 1778.

Linnet, a well-known song-bird, frequenting all Europe S. of 64°, and in Asia extending to Turkestan.

Linotype, a machine, operated by finger keys, which automatically produces and assembles, ready for the press or stereotyping table, type metal bars, each bearing, properly justified, the type characters to print an entire line.

Linseed Oil, the fixed oil expressed from the seed of the flax plant. Linseed oil yields, with alkalies, a very soft soap, and is acted on with facility by oxidizing agents generally.

Lint, the name given to linen cloth or rags when shredded or scraped down so as to form a soft material, suitable for dressing wounds and soaking up discharges. This is now superseded by a cotton cloth specially woven for the purpose, with one side soft and fluffy.

Linton, Sir James Drumgole, an English painter; born in London, Dec. 26, 1840.

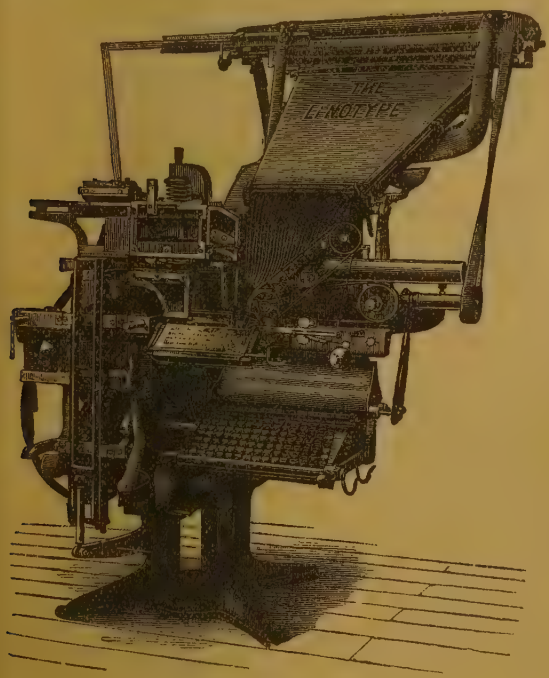
Linton, William James, an Anglo-American wood engraver and author; born in London in 1812. He died in 1897.

LINNET.

Lion, a very typical member of the great carnivorous order of mammals, standing as the chief representative of the family Felidæ or cats. The dental arrangement comprises six incisors and two canines in each jaw; the false or pre-molars number six in the upper and four in the lower jaw; and the true molars are two in each jaw. The molars are fewer in number in the Felidæ than in other Carnivora.

The African continent forms the headquarters of the lions, and in Southern Asia — in India, Persia, and Arabia — they are also found. America totally wants evidence of any geological or historical lion — the puma supplying its place in the New World. The African lion has long formed the typical specimen of the tribe. It extends all over the African continent, but exhibits certain variations throughout that large area. Thus the Barbary and Cape lions vary a little in color and size, the former being

generally the larger, and even the Cape or South African forms appear to present variations in color, one being paler in color than the other, and hence these latter forms become divisible into the pale and black lions. The maneless lion of India presents a distinct feature from the other forms in that the males want the characteristic mane of the other varieties. And among the lions generally the differences on which the formation of distinct species have been founded have a chief reference to the development and form of the mane in the various kinds. The period of gestation in the lions is five months. Only one brood is produced annually and from two to four young are produced at a birth. The mother nourishes the whelps for about a year, their size at birth being about that of a pug dog. In their young state the whelps may be marked with various markings, brown bands on a tawny body color being most frequently observed. As they grow older, however, the markings disappear and the uniform tawny hue of the adult is reached. The mane of the male does not begin to grow until the animal has attained the age of three or three and a half years. The adult age is reached in the males at seven and in the females at six years. The probable limit of age of the lion has been differently stated by different writers. Buffon fixed it at 22 years. But a lion which died in the Tower of London in 1760 had lived in captivity above 70 years, and another died in the Tower at the age of 63.



LINOTYPE.

Lipari Islands, known also as the Æolian Islands, a volcanic group in the Mediterranean, consisting of half a dozen larger and numerous smaller islands, with an aggregate area of 116 square miles, and situated off the N. coast of Sicily, N. W. of Messina. They rise to 3,170 feet above the level of the sea; many of the smaller islands form part of the rim of a gigantic crater. The ancient classical poets localized in these islands the abode of the fiery god Vulcan—hence their ancient name, Vulcaniæ Insulæ. Lipari is the largest. The next in size are Vulcano, Stromboli, Salina, Filicudi, Alicudi, and Panaria. The principal products of the islands are grapes, figs, olives, wine (Malmsey), borax, pumice stone, and sulphur. The warm

springs are much resorted to, and the climate is delightful. Lipari, the chief town, is a bishop's see and a seaport, and has 4,968 inhabitants. Stromboli (3,022 feet) is almost constantly active; Vulcano (1,017 feet) is so intermittently; the rest are extinct.

Lippe, or Lippe-Detmold, a small principality of Northern Germany; between Westphalia on the W. and Hanover on the E. The Weser touches it on the N. and the Teutoburger Wood crosses it on the S.; area, 475 square miles; population, 134,854. The present constitution of Lippe dates from 1853; capital, Detmold; other towns, Lemgo and Horn.

Lippi, Fra Filippo, commonly known as Lippo Lippi, a Florentine painter; born in Florence, in 1412. He died in Spoleto, Italy, Oct. 9, 1469.

Lippincott, Joshua Ballinger, an American publisher; born of Quaker parents in Juliustown, N. J., in 1816. He had charge of a bookseller's business in Philadelphia from 1831 to 1836, when he founded the house of J. B. Lippincott & Co., and by 1850 was at the head of the book trade in Philadelphia. He died in Philadelphia, Pa., Jan. 5, 1886, and the firm was converted into the J. B. Lippincott Company. "Lippincott's Magazine" was established in 1868.

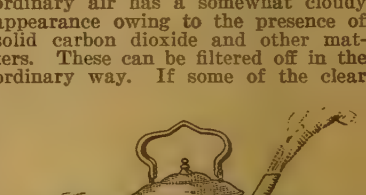
Lippincott, Sarah Jane (Clarke), pseudonym Grace Greenwood, an American writer; born in Pompey, N. Y., Sept. 23, 1823. She is favorably known as a newspaper correspondent and editor, and the author of charming poems, sketches and stories.

Lippmann, Julie Mathilde, an American writer; born in Brooklyn, N. Y., June 27, 1864.

Lipsius, Richard Adelbert, a German theologian; born in Gera, Feb. 14, 1830. He died in Jena, Aug. 19, 1892.

Lipton, Sir Thomas Johnstone, a British sportsman; born in Glasgow, of Irish parents. He is proprietor of large tea estates in Ceylon; owns a refrigerator car plant in the United States; and is president of a pork packing company in Chicago. He is, however, best known as the owner of the English yachts "Shamrock I," "Shamrock II," and "Shamrock III," with which vessels he unsuccessfully competed for the America's Cup in 1899, 1901, and 1903. During Queen Victoria's Jubilee, in 1897, the Princess of Wales issued an appeal for money to provide dinners for the poorest of the poor in London on some one day of the festivities. To this fund Lipton contributed $100,000. The result of this movement was "The Alexandra Trust," the purpose of which is to provide restaurants all over London where working people may buy wholesome, well-cooked food at cost price. To this object Lipton gave $500,000 in 1898, and promised more when needed. In consideration of his liberality he was knighted in 1898. The same year he sent a check for $10,000 for the relief of American soldiers wounded or invalided in the war with Spain, and in 1900 gave the New York Yacht Club $1,000 for a prize cup for a season's races. He was created a baronet June 25, 1902.

Liquid Air, air reduced to a liquid form. Liquid air when pure has a bluish tinge, but the liquid form of ordinary air has a somewhat cloudy appearance owing to the presence of solid carbon dioxide and other matters. These can be filtered off in the ordinary way. If some of the clear



BOILING ON BLOCK OF ICE.

liquid be poured in a glass vessel it will boil vigorously, apparently emitting clouds of vapor, but these are due to condensation of water vapor in the neighboring atmosphere. The outside of the vessel will at the same time become covered with hoar frost.

If a kettle containing liquid air be placed on a block of ice, boiling will again take place and the addition of ice to the contents of the kettle will make the boiling proceed more rapidly.

Liriodendron, the tulip tree, whitewood, tulip-bearing lily tree, Virginia poplar or poplar of America.

Lisbon, the capital of Portugal, province of Estremadura, on the Tagus, near its mouth. The city is partly built on the shores of the Tagus and on several small hills, and presents a magnificently picturesque appearance from the river. The harbor, or road, of Lisbon, is one of the finest in the world; and the quays, which extend nearly 2½ miles along the banks, are at once convenient and beautiful. The foreign trade of Lisbon, formerly of considerable importance, has rapidly declined since the emancipation of Brazil. The exports comprise wine, oil, fruit, and salt; among the imports are woolens, cottons, silks, metals, colonial produce, and furs. The manufactures of Lisbon are inconsiderable. Its jewelers and goldsmiths are among the most expert in Europe; but its backwardness is owing principally to a want of energy and industry. The climate of Lisbon is variable, but, on the whole, healthy and genial. Pop. 328,000.

Liscum, Emerson H., an American military officer; born in Vermont, July 16, 1841; entered the National army in 1860; served through the Civil War; brevetted captain in August, 1864; promoted captain in 1870; lieutenant-colonel in May, 1896. After the Civil War he became famous as an Indian fighter. In 1898 he accompanied the American troops to Cuba; was severely wounded at the battle of San Juan Hill and for gallantry in that action was promoted Brigadier-General of volunteers. He was promoted colonel U. S. A., April 25, 1899, and assigned to duty in the Philippine Islands. When the Boxer troubles in China broke out in 1900, he was ordered with his command to the seat of the uprising, and was killed while leading his men with the allied troops against the Chinese near Tien-tsin, July 13, 1900.

List, Friedrich, a German political economist; born in Reutlingen, Aug. 6, 1789. He emigrated to the United States in 1825 and settled at Harrisburg, Pa. There he wrote "Outlines of a New System of Political Economy" (1827). He went to Leipsic (1833) as American consul and did not return to America. He died in Kufstein, Nov. 30, 1846.

Lister, Sir Joseph, an English surgeon; born April 5, 1827. He was graduated at London University in arts (1847) and medicine (1852). He was Professor of Clinical Surgery, King's College Hospital, London (1877); and was made surgeon extraordinary to the queen. In addition to important observations on the coagulation of the blood, the early stages of inflammation, and other matters, his great work is known as the antiseptic system of surgery. Lister was awarded many foreign honors, and received the medal of the Royal Society in 1880, the prize of the Academy of Paris in 1881. He was made a baronet in 1883 and a peer in 1897. He was one of the surgeons in attendance on King Edward during his serious illness in 1902.

Liszt, Franz, a Hungarian pianist and musical composer; born in Raiding, Hungary, Oct. 2, 1811. His real career as a pianist began about 1839, when he made an extended concert tour through Europe, his playing being received in all the great cities with enthusiasm. When his popularity was at its height he settled in Weimar and became director of the court theater. In 1875 he received a government pension and was named director of the Hungarian Academy of Music in Budapest. He gave his assistance to foster the Wagner festivals of music in Bayreuth, and it was while on a visit there on July 31, 1886, that he died. His chief musical compositions are: The "Faust" and "Dante" symphonies, "Hungarian Rhapsodies," "Symphonic Poems," a large number of pianoforte pieces, several masses, and the oratorios of "St. Elizabeth" and "Christus." He also wrote monographs on Chopin and Franz.

Litany, a prayer of a supplicatory nature used in public worship.

Litchfield, Grace Denio, an American novelist; born in New York city, Nov. 19, 1849. She lived in Europe for a number of years, and afterward in Washington, D. C.

Litchi, or **Lee-chee,** one of the most delicious fruits of China, Cochin China, and the Malay Archipelago. The Chinese preserve the fruit by drying, and in the dried state it is imported.

Liter, or **Litre,** the French standard measure of capacity in the decimal system. It is a cube, each side of which measures 3.937 inches, and it contains 61.028 cubic inches, or 2.113 pints.

Lithia, in chemistry, oxide of lithium. The salts of lithia being solvents for uric-acid calculi, alter the quality of the urine, and prevent the crystallization and deposit of the substances forming gravel and calculi. Muriate lithia waters are waters impregnated with chloride of lithium, as at Baden Baden. They are useful in gout.

Lithium, a monatomic element of the alkali group of metals. It is of comparatively recent discovery, and although occurring generally in minute quantities, is very widely distributed through the mineral kingdom.

Lithography, the art of drawing on and printing from stone, is a comparatively recent invention, the principles on which it is based having been discovered by a young German literary adventurer about the close of the 18th century. It ranks next to printing from type in importance.

Lithotomy, the operation, art, or practice of cutting into the bladder, in order to extract one or more stones or calculi.

Lithotypy, the art or process of stereotyping by pressing the types of a page set up into a soft mold or matrix. The hollows left by the types are then filled with a mixture of gum shellac, fine sand, tar, and linseed oil, heated, which, when cold, becomes as hard as stone and can be printed from.

Litrameter, an instrument for ascertaining the specific gravity of liquids, invented by Dr. Hare of Philadelphia.

Litter, a stretcher with a bed, and in many cases, a canopy; used, not as the stretcher ordinarily is, in emergency and haste, but provided for the use of the sick during transportation home or to the hospital.

Little Britain, an English designation of the French province of Bretagne, or Brittany.

Little John, a big stalwart fellow, named John Little (or John Nailor), who encountered Robin Hood and gave him a sound thrashing, after which he was rechristened, and Robin stood godfather. Little John was executed on Arbor Hill, Dublin, according to the legend.

Littlejohn, Abram Newkirk, an American clergyman; born in Montgomery co., N. Y., Dec. 13, 1824. He was graduated at Union College in 1845 and was ordained clergyman of the Protestant Episcopal Church. After holding various posts in his denomination he was made bishop of Long Island in 1869. He died in Williamstown, Mass., Aug. 3, 1901.

Little Striped Skunk, a variety of pole cat; habitat in the S. parts of the United States. The fur is black, marked with white spots and stripes.

Little Tennessee, a picturesque and fertile portion of Virginia, in the S. W. part of the State.

Littleton, or **Lyttleton, Sir Thomas,** an English jurist; born in Frankley, Worcestershire, England, in 1402. He was in 1466 judge of common pleas, and in 1475 a knight of the Bath. Littleton's reputation rests on his work on "Tenures," which was originally written in Norman-French, or rather law French. It treats of the English law relating to rights over land, and was the first scientific attempt to classify the subject. He died in Frankley, Aug. 23, 1481.

Littoral Deposits, accumulations formed in shallow water along a shore line. They are generally gravelly and arenaceous in character, and exhibit rapid alternations of finer and coarser grained materials.

Littre, Maximilien Paul Emile, a French philologist; born in Paris, Feb. 1, 1801. He was one of the greatest linguists and scientists of the century, best known for his celebrated "Dictionary of the French Language." In addition to his labors as a philologist he contributed to various scientific and philosophical journals, was active in politics, translated the works of Hippocrates, which admitted him to the Academy of In-

scriptions, and Pliny's "Natural History," and wrote a "History of the French Language," etc. In 1871 he was elected to the French Academy. He died in Paris, June 2, 1881.

Liturgy, the established form of public worship, a form of public devotion, the entire ritual for public worship.

Liu-Kiu Islands, a group of 37 (mostly small) islands which form an integral part of the empire of Japan, extending at irregular intervals S. W. from Kyushu in Japan toward Formosa, and constituting the Japanese prefecture of Okinawa; length 80 miles, average breadth 12 to 15 miles; area, 1,863 square miles; pop. 160,000. The only two islands of considerable size are Oshima and Okinawa. The people closely resemble the Japanese and are evidently of the same descent. China has a claim on them, based on an earlier conquest, but has made no effort to enforce it, and they remain in the undisturbed possession of Japan.

Liver, the glandular structure, which, in animal forms, secretes the bile. In man the liver forms the largest gland of the body, weighing from 50 to 60 ounces.

The diseases to which the liver and gall bladder are subject are quite varied. Chief among its abnormal structural conditions may be mentioned that of cirrhosis, in which the fibrous tissue of the organ becomes greatly enlarged and hypertrophied, to the destruction of the cells and impairment of its functions; and also that of fatty degeneration, in which the oil globules of the liver cells become greatly increased in number, the tissue of the organ becoming very loose and friable. Both of these conditons are intimately associated with the abuse of alcoholic liquors. From its large size and prominence, as well as from the delicacy of the interlobular areolar or fibrous tissue, the liver is very liable to be ruptured by external violence, or even by the forcible action of the abdominal muscles. In a diseased state — especially when fatty or cirrhotic — the liver is more readily ruptured than when in a normal and healthy condition.

Livermore, Mary Ashton (Rice), an American reformer and lecturer; born in Boston, Mass., Dec. 19, 1821. In 1862 she was appointed agent of the Northwestern branch of the United States Sanitary Commission. After the war she was conspicuous in her efforts to promote the woman suffrage and temperance movements. Among her popular lectures are: "What Shall We Do with Our Daughters?" "Women of the War," "The Moral Heroism of the Temperance Reform."

Liverpool, an episcopal city, parliamentary, municipal, and county borough, and seaport of England; in the county of Lancaster; on the right bank of the Mersey, about 4 miles from its confluence with the Irish Sea, 185 miles N. W. from London. It stands partly on flat ground along the margin of the river, but chiefly on the slopes of a series of moderate eminences whose summits are within the limits of the borough, and the highest of which is about 230 feet above the level of the quay wall of the river. It is irregularly laid out but, generally speaking, is well built, and it contains some magnificent public buildings.

Next to London, which it exceeds in the value of its exports — Liverpool is the chief seaport of the United Kingdom. It is the main outlet for the manufactures of Lancashire, West Yorkshire, and Staffordshire, and carries on an immense export and import trade, especially with the United States. It possesses a magnificent series of docks and basins, and other requisites of a great seaport. The works have been designed and constructed with consummate engineering skill. They include docks specially adapted to distinct branches of trade, for example, corn, timber, American steamships, etc.

On the margins of some of the docks are gigantic warehouses, among which may be mentioned the Albert and Wapping, used for general produce; the Waterloo grain warehouses, entirely devoted to the storage of foodstuffs, and furnished with special lifting and conveying machinery; the Stanley warehouses, formerly used for general goods, but now used exclusively for the storage of tobacco, and recently supplemented by one of the most gigantic warehouses probably in the world, 730 feet long, 165 feet wide,

and about 120 feet high, which has in all 14 floors, having an aggregate area of 36 acres. This also is for the storage of tobacco, the total capacity in the three blocks of warehouses now available being about 100,000 hhds., or 50,000 tons. Adjoining these warehouses is another block especially constructed for the storage of wool. The quays are abundantly furnished with railway lines and every other mechanical appliance for expediting the transport of goods and economizing labor. An overhead electric railway running along the docks for about 7 miles was opened in 1893. There are numerous graving docks for the repair of iron and wooden vessels, and gridirons for their casual overhaul. The most modern of the graving docks, that at Canada Dock, is among the largest in the world, its length being 925½ feet, and width of entrance 94 feet.

One of the principal river features of Liverpool is the floating landing-stage moored off the Prince's and George's Docks, in the heart of the town. This magnificent structure, supported on iron pontoons, rising and falling with the tide and connected with the river wall by bridges of easy gradient, is an effective engineering device to meet the tidal conditions obtaining on the Mersey, where spring tides present a difference in level between high and low water of over 30 feet, and even neap tides have a range of 13 feet.

Liverpool is, next to London, the largest town in England. A vast number of its inhabitants are unskilled laborers, who resort to it for precarious and fluctuating labor connected with the port. It is among the most densely populated of the large towns of the United Kingdom, and its annual death-rate (about 24 per 1,000) is correspondingly high.

Great as Liverpool now is, it is of but comparatively recent growth. The conquest of Ireland gave the first stimulus to the commerce of Liverpool. Toward the latter part of the 16th century the town declined, and in 1571 it was mentioned in a petition to Queen Elizabeth as "her majesty's poor decayed town of Liverpool." In her reign, however, a mole was formed for laying up ships in the winter, and a quay was constructed.

In 1709 a wet dock was constructed, not only the first in Liverpool, but also in the kingdom. From this event may be dated the rapid extension of its commerce and population; its progress being exceedingly rapid during the 19th century. In 1880 Liverpool was made the see of a bishop, and in that year a charter was granted constituting it a city. The population, which in 1801 was only 77,653, in 1901, parliamentary borough, 627,030; county borough 684,947.

Liverpool, Robert Banks Jenkinson, Earl of, an English politician; born June 7, 1770. He entered Parliament under Pitt's auspices in 1790, and on his father being created Earl of Liverpool in 1796 he became Lord Hawkesbury. On the assassination of Percival in 1812 he became premier, and held that position till 1827. His opposition to all liberal measures, the severity with which he repressed internal disturbances, and his prosecution of Queen Caroline rendered him extremely unpopular. He died in London, England, Dec. 4, 1828.

Livery, a word derived from the custom which prevailed under the Merovingian and Carlovingian kings of "delivering" splendid habits to the members of their households on great festivals. In the days of chivalry the wearing of livery was not as now confined to domestic servants. In America the wearing of livery by servants is regarded as a foreign custom, and confined to a comparatively small number of wealthy families, the wearers being usually, if not invariably, foreigners.

Livingston, Edward, an American statesman; born in Clermont, Columbia Co., N. Y., May 26, 1764. He was a brother of Robert Livingston, was educated at Princeton College, and was called to the bar in 1785. In 1794 he was elected member of Congress, and distinguished himself by his opposition to the Alien and Sedition Bills. He belonged to the party then called Republican, and since Democratic. In 1801 he retired from Congress and accepted the two offices of mayor of New York and attorney-general for the district of New York. In consequence of pecuniary difficulties in the latter office he quitted New York in 1804, and having given up his

property to the State settled at New Orleans. He soon took a high place at the bar, served under General Jackson against the English in 1814; and in 1820 became a member of the legislature of Louisiana, and was employed to revise the municipal law. His next task was to draw up a new code of criminal law for the State, the existing laws being a confused mass of French, Spanish, and English. On this code his fame rests. In 1829 he became Senator of the United States, Secretary of State under President Jackson, and in 1833 ambassador to France; when he succeeded in recovering compensation for injuries to American commerce during the empire. During his residence in Paris he was elected Foreign Associate of the Academy of Sciences. He died in Rhinebeck, N. Y., May 23, 1836.

Livingston, Philip, an American statesman; born in Albany, N. Y., Jan. 15, 1716. He was graduated at Yale in 1737. He was a member of the Continental Congress and a signer of the Declaration of Independence. He died in York, Pa., June 12, 1778.

Livingston, Robert, an American statesman; born in New York, Nov. 27, 1746; in which city he practised the law with great success. He was one of the committee to prepare the Declaration of Independence; was appointed Secretary of Foreign Affairs in 1780; and throughout the War of the Revolution signalized himself by his zeal and efficiency in the cause. He was afterward chancellor of the State of New York; and, in 1801 was appointed by Jefferson minister plenipotentiary to France, where, during a residence of several years, he was treated with marked attention by Napoleon, who, on his quitting Paris, presented him a splendid snuff box with a miniature likeness of himself, painted by Isabey; died Feb. 26, 1813.

Livingston, William, an American statesman; brother of Philip; born in Albany, N. Y., Nov. 30, 1723. He was a member of the convention which framed the Constitution of the United States and from 1775 till his death was Governor of New Jersey. He died in Elizabethtown, N. J., July 25, 1790.

Livingstone, David, one of the most famous African explorers; born in Blantyre, Lanarkshire, Scotland, March 19, 1813. At the age of 10 he entered the cotton factory as a "piecer." While in this situation, though working from six in the morning till eight at night, he found time to learn Latin, and by the age of 16 he was well acquainted with classical writers. As he grew up to manhood he read extensively, especially scientific works and books of travel, and his home training being essentially a religous one the idea sprang up within him of becoming a pioneer of Christianity in China. With this end in view he resolved on obtaining, among other qualifications, a good medical education. In November, 1840, he was admitted a licentiate of the Faculty of Physicians and Surgeons of Glasgow.

Having joined the London Missionary Society he made preparations for starting as a medical missionary to China; but as the opium war was raging in that country it was deemed better under the circumstances that he should go to South Africa, where the venerable Robert Moffat had opened an inviting field for missionary labor. He embarked for Africa in 1840, and after a three months' voyage reached Cape Town. His first station was at Kuruman, in the Bechuana territory, 700 miles from the Cape, at which place and in Mabotze he remained several years, making himself acquainted with the habits, laws, and language of the natives. About this time he married the daughter of Mr. Moffat, who had founded the station, and shortly afterward moved further N. to Kolobeng.

Here he heard from the natives of a great lake on the N. of the Kalahari desert, and on June 1, 1849, accompanied by Messrs. Oswell and Murray, who had come from India on a hunting expedition, he started for the purpose of discovering it. After a toilsome journey of 300 miles they reached Lake Ngami (Aug. 1), never till then beheld by European eyes. In the following year he made a second journey, along with his wife and children, to the same region, with the intention of finding a new field for missionary labor and a more favorable site for a station. The whole party, however, were stricken down by fever, and compelled at last to return to Kolobeng.

In 1851 he started N. for the third time, in company with Mr. Oswell,

and finally came on the Zambesi, the largest river in South Africa, flowing E. from the center of the continent. On his return to Kolobeng he wrote to the London Missionary Society proposing to devote several years to the exploration of this region, and requesting their consent and coöperation. He received not only the necessary sanction but also means for carrying out his enterprise. He set out on Jan. 5, 1853, and on May 23 reached Linyanti after great difficulty, owing to the floods. The chief Sekeletu and the whole population of the town, numbering between 6,000 and 7,000, welcomed him with great enthusiasm and kindness. From the Makololo capital he first made a voyage to the Zambesi, and returning thence to Linyanti he set out on Nov. 11, accompanied by 27 natives of the Makololo tribe, on a journey of exploration to the W. part of the continent. Thence, with much difficulty, caused by repeated fevers, famine, and frequent danger from hostile natives, they proceeded till their arrival at St. Paul de Loanda, the capital of Angola, on the W. coast of Africa, in August, 1854.

The country they traversed is of exuberant fertility intersected with innumerable rivers, densely wooded, and full of mineral wealth. He remained at this place to recruit his shattered health until Sept. 20, when he set out on his return journey to Linyanti, which was reached in about a twelvemonth. Starting on Nov. 3, 1855, from that place again, accompanied by several natives, he struck boldly down the Leeambye on his way to the E. coast. In May, 1856, he reached Quilimane on the E. coast, where the N. mouth of the Zambesi opens into the Indian Ocean, having thus accomplished in four years the unparalleled feat of crossing the continent of Africa in these latitudes from sea to sea. After this stupendous journey Livingstone returned (Dec. 12, 1856) to England, whither the fame of his discoveries had preceded him, and he was received by his countrymen with great enthusiasm. Pressed to give to the world a record of his travels he at first refused, but yielding at last to repeated demands he published a bulky volume entitled "Missionary Travels and Researches in South Africa" (London, 1857). In March, 1858, he set sail for Quilimane, having been appointed British consul at that place, and furnished by the government with means to pursue his explorations into the interior. The first of these expeditions in which he was accompanied by his brother Charles, Dr. Kirk, and others, added the accurate knowledge of Lakes Nyassa and Shirwa to the map, besides collaterally enriching natural history and botanical collections by the labors of his colleagues. In this journey he had the misfortune to lose his brave and noble-minded wife, who died April 27, 1862, at Shupanga creek, on the Shire river. After having completed in several other expeditions the survey of the Zambesi river system he returned to England in 1864.

On the following year he again set out for the purpose of making further explorations. One of the principal objects he had this time in view was to set at rest, if possible, the question of the sources of the Nile, left unanswered by the researches of Burton, Speke, Grant, and Baker. Landing at the mouth of the Rovuma, he pushed up the valley, striking direct for Lake Nyassa. Long before reaching the N. extremity of the lake, however, his native followers deserted him, and returned to the coast with an account of the intrepid traveler's death at the hands of a hostile tribe. Dr. Kirk at Zanzibar, and Sir Richard Murchison in England refused to believe the tale, suspecting, rightly, that it was got up by his followers to account for their return. An expedition was sent out at the expense of the government, headed by Mr. Young, the principal result of which went to prove that Livingstone was not killed at the place named by his men, and that he had advanced in safety a five days' journey beyond. This intelligence was confirmed shortly afterward by the arrival of letters from Livingstone himself dated four months later than the time of his supposed death. For about three years after this all communication between the explorer and his friends was cut off, owing to the unsettled state of the country. A second expedition was fitted out from England under the command of Lieutenants Dawson and Henn, accompanied by W. Oswald Livingstone, a son of the great traveler. They arrived at Zanzibar in the early part of 1872, and landed on the neigh-

boring coast at Bagamoyo. But here they were met on May 7 by Henry M. Stanley, the special correspondent of the New York "Herald," who had left the object of their search in good health at Unyanyembe, about 50 days' march from the coast. He had found Dr. Livingstone on Nov. 3, 1871, at Ujiji. They had lived together during the winter exploring the N. coasts of Lake Tanganyika, and Livingstone had accompanied the intrepid American as far as Unyanyembe, half way between the lake and the sea coast. They separated in March, 1872, at which time it was Livingstone's intention to return to Ujiji, and thence to cross over or go around the S. end of Lake Tanganyika, to finish his explorations of the more W. chain of lakes and rivers which he had discovered flowing N. from the Chambeze and Lake Bangweolo. Fully equipped with stores from Dr. Kirk and the relief expedition he set out in the summer to complete his explorations of the Lualaba river. After rounding Tanganyika and visiting Lake Bangweolo he pushed on for Katanga; but stricken down with dysentery, after much painful traveling in the attempt to reach Ujiji, he bade his followers build him a hut to die in at Ilala, near Lake Bangweolo, where he expired May 1, 1873. His body was disemboweled and filled with salt, and carried by his faithful attendants to the coast, whence it was conveyed to England, and solemnly deposited in Westminster Abbey, April 18, 1874.

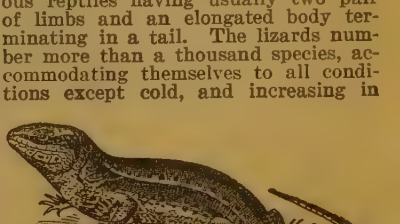
Livius Andronicus, the father of Roman dramatic and epic poetry, was a Greek by birth, probably a native of Tarentum, and was carried a slave to Rome in 272 B. C., but afterward liberated by his master. He translated the "Odyssey" into Latin Saturnian verse, and wrote tragedies, comedies, and hymns after Greek models.

Livy (Titus Livius Patavinus), a Roman historian of the Augustan age; born in Patavium (now Padua), Italy, 59 B. C., according to Varro, or in 61 according to Cato. After passing the early portion of his life in his native town, he appears to have gone to Rome during the reign of Augustus, where his literary talents soon obtained for him the favor and patronage of the emperor. Having spent the greater part of his life in the metropolis, he returned in old age to the town of his birth, and there died A. D. 18, in the 77th year of his age.

Livy has erected for himself an enduring monument in his "History of Rome." This great work, which he modestly designated "Annales" (Annals), contained the history of the Roman state from the earliest period till the death of Drusus 9 B. C., and originally consisted of 142 books. Only 35 of these have descended to us; of the others, with the exception of two, we possess "Epitomes," or short summaries, but the books themselves have been entirely lost.

Livre, an old French money of account, now superseded by the franc, to which it was about equal in value.

Lizard, the popular name of numerous reptiles having usually two pair of limbs and an elongated body terminating in a tail. The lizards number more than a thousand species, accommodating themselves to all conditions except cold, and increasing in



LIZARD.

size and number in tropical regions. Some lizards are vegetable feeders, but for the most part they are carnivorous and live upon small birds, insects, etc. The eggs are deposited and left to be hatched without care from the parents. The chief families of lizards are the skinks; the geckos; the iguanas; and the chameleons. Poison glands are wanting in the lizards; the only exception being the Heloderma of Arizona and Mexico, which is capable of inflicting a poisonous bite by means of poison glands connected with grooved teeth.

Llama, or **Lama,** an even-toed ungulate of the family Camelidæ; habitat the S. parts of Peru. It is usually

white, sometimes spotted with brown or black and sometimes entirely black. In size it is smaller, and in general form lighter than the camels, standing about three feet at the shoulder; no dorsal hump; feet narrow, toes widely separated, each with a distinct pad; hairy covering long and woolly. In the early days of Peruvian discovery the llama was the only beast of burden employed in the country. Its load rarely exceeds 120 pounds, but its great value consists in its being able to traverse mountainous paths along which less sure-footed animals would be unable to pass. Its usual daily journey averages 12 miles. The llamas are completely domesticated.

Llanos, vast plains in the N. portion of South America, in some parts barren and sandy, in others covered with luxuriant grass and stocked with innumerable herds of cattle. Over great portions, however, there is a heavy growth of timber. The llaneros resemble the Gauchos farther S.

Lloyd, David Demarest, an American playwright; born in New York city in 1851. He graduated at the College of New York, and soon after was attached to the staff of the New York "Tribune." As a correspondent at Albany in 1875 he was prominent in exposing the canal ring. Besides contributions to magazines he wrote four plays. He died in Weehawken, N. J., in 1889.

Lloyd, Henry Demarest, an American writer on economics, brother of David; born in New York, May 1, 1847. He received his education at Columbia College, and shortly after graduating joined the editorial staff of the Chicago "Tribune." He resided in Winnetka, Ill. His chief work is the notable book "Wealth Against Commonwealth." He died Sept. 28, 1903, at his home in Winnetka, Ill.

Lloyd's, a name given to the place of general insurance business. This institution, now known simply as Lloyd's is devoted entirely to marine insurance and to such business as is subsidiary thereto, as the classification and registration of vessels, etc.

Load Line, a line drawn on the side of a ship to indicate that she is loaded so as to sink deeper if she is overloaded.

Loadstone, an ore of iron, consisting of the protoxide and peroxide in a state of combination, and frequently called the magnetic oxide of iron. It was known to the ancients, and they were acquainted with the singular property which it has of attracting iron.

Loam, alluvial soil, consisting of sand and clay soil in considerable quantity. If one or the other largely predominates, the soil ceases to be loam.

Loan, anything lent or given to another on condition of return or payment. The acknowledgment of a loan of money may be made by giving a bond, a promissory note, or an I O U, the last of which requires no stamp.

Loan and Trust Company, a chartered institution, in the United States, which has the authority to execute trusts, to lend money on security at legal rates of interest, and to issue obligations for money or other property on deposit with it. These institutions are not allowed to issue bills to circulate as money, or to loan money to their officers, and are not required to keep lawful money reserves.

Lobbyists, a term applied to men who make a business of corruptly influencing legislators, by means of money paid to the members, or by any other method that is considered feasible. Many women engage in this work as well as men. The term lobby, which literally means the ante-rooms of legislative halls, has come to be applied to these people who frequent them, and they are sometimes styled the Third House.

Lobelia, a flower; many of the species are very beautiful. The flowering herb Indian tobacco, indigenous to the United States, is used in medicine. The medicinal preparations of it are two — the tincture and the ethereal tincture of lobelia.

Loblolly Bay, an elegant evergreen shrub or small tree, from the S. States of America. Its bark is sometimes used in tanning.

Lobos Islands, two small groups of rocky islands, about 12 miles off the coast of Peru, famous for the great quantity of guano which they produced.

Lobster, a well known crustacean, already alluded to under the head of Crawfish. It belongs to the highest order of the Crustacea, distinguished by the possession of five pairs of walking legs; and is included in the "Long-tailed" decapods, which are characterized by the elongated nature of the abdomen. In the lobsters the appendage at the base of the outer antennæ or feelers is of smaller size, and the anterior pair of legs are always much larger than the others. The first, second, and third pairs of legs are provided with "chelæ," or nipping claws, the fourth and fifth pairs simply terminating in single and pointed extremities. The inner edges of the large claws are provided with blunt tubercles, while the edges of the other claws have little serrations or teeth. The front of the head shield bears a serrated, pointed projection — the "rostrum." The greater antennæ are very long and single, the shorter pair are bifid. The common lobster is of a bluish black color, variegated with pale or yellowish spots and patches; the remarkable chemical change which the color undergoes on boiling being well known.

Lobsters are fished by pots or "creels," generally of wood and net, or made of wickerwork. The bait is garbage of various kinds, but fresh fish, cuttlefishes, etc., are frequently used to entice the lobsters to enter the traps. From mid-October to the end of April is the best season for lobsters, when they are in primest condition and most in demand. The lobsters change their shell or crust annually. The increase of body in these and other crustaceans takes place at the period of molting; the hard outer shell preventing growth at other periods. They move freely about by walking, while by bending the tail sharply under the body, they propel themselves backward in the water by aid of the broad tail-piece or fin with which they are provided. The lobsters are very prolific. The Palinurus, or spiny lobster, sometimes known as the sea crawfish, is so named from the numerous spines with which the body is covered. The body is colored dark red, with lighter patches, and sometimes attains a length of three feet and a weight of 15 pounds. The outer or larger antennæ are exceedingly long; the smaller pair being bifid at their extremities only. The front pair of legs are small, and rarely provided with nipping claws. It inhabits deep water.

Lochleven, a beautiful oval lake of Kinross-shire, Scotland, 23 miles N. N. W. of Edinburgh. It has an area of 3,406 acres, drainage operations having reduced its size by one-fourth in 1826–1836. Of seven islands, the largest are sandy, treeless St. Serf's Inch, an early seat of the Culdees, and Castle Island, with the 14th-century keep of a castle which in 1567–1568 was for 10 months the prison of Mary Queen of Scots.

Lock, an inclosure in a canal, with gates at each end, used in raising or lowering boats as they pass from one level to another. When a vessel is descending, water is let into the lock till it is on a level with the higher water, and thus permits the vessel to enter; the upper gates of the lock are then closed, and by the lower gates being gradually opened, the water in the lock falls to the level of the lower water, and the vessel passes out. In ascending the operation is reversed, that is, the vessel enters the lock, the lower gates are closed, and water is admitted by the upper gates, which, as it fills the lock, raises the vessel to the height of the higher water.

Locke, David Ross, pseudonym Petroleum V. Nasby, an American humorist; born in Vestal, Broome co., N. Y., Sept. 20, 1833. After being connected with several newspapers he took charge of the Toledo "Blade," in 1865, and at once became popular as a humorous writer and later as a lecturer. He began his "Nasby" letters in 1860 and continued them throughout the war. They were very amusing and were mainly hits at political characters and situations, written in a peculiar dialect. Abraham Lincoln read Locke's writings with much pleasure. He died in Toledo, O., Feb. 15, 1888.

Locke, John, an English philosopher; born in Wrington, in Somersetshire in 1632. He was educated at Westminster and Christchurch College, Oxford. When in 1672, Lord Shaftesbury was appointed lord chancellor, he made Locke secretary of

presentations, and at a later period, secretary to the Board of Trade. As a philosopher, Locke stands at the head of what is called the Sensational School in England. His greatest work is the "Essay on the Human Understanding," in which he endeavors to show that all our ideas are derived from experience, that is, through the senses, and reflection on what they reveal to us. He is best known to Americans as the author of a peculiar constitution for North Carolina, which included orders of nobility, etc. It was never put in operation. He died in 1704.

Locke, John Staples, an American writer; born in Biddeford, Me., in 1836.

Lockhart, John Gibson, a Scotch biographer, critic and editor; born in Lanarkshire, Scotland, July 14, 1794. In 1820 he married the daughter of Sir Walter Scott, and in 1826 succeeded Gifford as editor of the "Quarterly Review," a position which he occupied for 27 years. As the author of the life of Sir Walter Scott he will be remembered. He died in Abbotsford, Nov. 25, 1854.

Lockout, the discharge and keeping out of employment of artisans and laborers by their employers. It is a retaliatory measure adopted by some capitalists to resist the demands for shorter hours, more pay, etc., made by their workmen.

Lockwood, Belva Ann Bennett (Mrs.), an American lawyer; born in Royalton, N. Y., Oct. 24, 1830; was graduated at Genesee College, Lima, N. Y., in 1857. Later she was instrumental in inducing Congress to pass an act giving women in the employ of the government equal pay with men for the same work. She studied law in Washington and was admitted to the bar in 1879; and was connected with numerous important law cases, including several before the United States Supreme Court; was nominee of the Equal Rights Party for President of the United States in 1884 and 1888; was appointed United States representative to the Congress of Charities and Corrections in Geneva in 1896. In 1900 she had a bill before Congress to prevent encroachment upon the Cherokee Indians of North Carolina. She was elected president of the Women's National Press Association, Jan. 18, 1901.

Lockwood, James Booth, an American military officer; born in Annapolis, Md., Oct. 9, 1852; volunteered to accompany the Lady Franklin Bay expedition to the Arctic regions and was made second in command. His fame rests upon the discovery of Lockwood Island, in lat. 83° 24′ N., the farthest N. point of land or sea that had been reached up to that time. He died at Cape Sabine, April 9, 1884.

Lockyer, Joseph Norman, an English astronomer; born in Rugby, England, May 17, 1836. He in 1866 discovered a new method of observing the sun; and in 1874 he gained the Rumford medal of the Royal Society and was appointed editor of "Nature." He was knighted in 1897.

Locofoco, a lucifer match, a self-lighting match. A name formerly given to a faction of the Democratic party, because at a grand meeting in Tammany Hall, New York, in 1834, when the chairman left his seat, and the lights were suddenly extinguished in the hope of breaking up the turbulent assembly, those who were in favor of extreme measures instantly drew from their pockets their locofocos, relighted the lights, and continued the meeting to the accomplishment of their object.

Locomotive, Development of the. Statistics compiled for the year 1901 showed the total output of the eight principal locomotive building plants in the United States as 3,384. This was the largest output on record and 7.3 per cent. more than in 1900. For the year ending June 1, 1902, the record of locomotive building exceeded even the year 1901. During the year ending June 1, 1902, about 30 per cent. of the total of passenger and freight engines built by the largest locomotive manufacturing companies were of the compound type. The heaviest engine built during the year weighed, not including the tender, 267,800 pounds; 237,800 pounds of which were on the driving wheels. This was a locomotive of the decapod type.

The preceding five years showed a wonderful development in the main features of locomotive design and construction. No longer ago than 1897 passenger engines with 2,200 square

feet of heating surface and freight engines with 2,900 square feet were spoken of as marvels of progress, and comment was made at that time of the fact that boiler pressures were being raised to above 150 pounds and might possibly reach 180 pounds on simple locomotives. The 1902 engines constructed for passenger service and freight engines had over 3,500 square feet of heating surface and freight engines had 5,390 square feet. Most of the simple engines constructed carried 200 pounds pressure and some had been designed for 225 pounds. At this time it seemed a conceded fact that with 200 pounds pressure the economical limit for simple engines had been reached, and that for higher pressures the compounding feature was necessary for economy in fuel consumption. The tendency in locomotive design at present is toward a greatly reduced ratio of the grate surface and heating surface to the weight on drivers for engines burning bituminous coal. It is an uncontroverted fact that greater attention is now being given the careful designing and proper proportioning of locomotives than ever before and during the last three years the American locomotive has taken long strides ahead as a steam producer and speed maker.

Locust, an insect too well known to western farmers. The females excavate holes in the earth and deposit their eggs in a long mass enveloped in a glutinous secretion. The larvæ commence their destructive career almost as soon as they are hatched. The migrations of locusts are probably in search of food, and extraordinary accounts are on record of the vast swarms that from time to time invade particular districts. They clear everything off the surface of the ground, and have on several occasions caused disastrous famines. Locusts are by preference vegetable-feeders; but they will attack dry animal substances, and even become cannibals when other food fails.

Locust Tree, or **Acacia,** the locust tree of the United States, also called the false acacia, or thorn acacia, and on the continent of Europe and in Great Britain very generally the acacia is a valuable and extremely beautiful tree. The wood, known as locust wood, is useful for all purposes in which great strength, and especially toughness, is required.

Lode, the technical name for a metalliferous or ore-producing vein. These differ in their length, width and depth, and also in the richness of mineral they contain.

Lodestar, or **Loadstar** ("leading star") a name given to the polar star.

Lodge, Henry Cabot, an American statesman and author; born in Boston, Mass., May 12, 1850; was lecturer on history at Harvard College in 1876–1879, and editor of the "North American Review" in 1873–1876. He then entered political life, and in 1893 was elected United States Senator from Massachusetts and re-elected in 1899. He is the author of a "Life of Daniel Webster," and of lives of Alexander Hamilton and George Washington; also of "Boston" in the series of "Historic Towns"; of a "Short History of the English Colonies in America"; etc.

Lodger, a tenant who holds part of a house in his exclusive possession, while the landlord or his agent holds possession over the house as a whole. The lodger's rights vary greatly in the several States, there being no uniformity of practice and legislation on the subject. In New York State his belongings may be detained for rent due, while the property of a tenant of a house or tenement cannot.

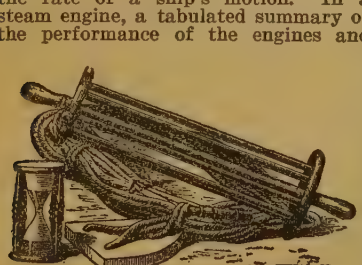
Loeb, Jacques, an American educator; born in Germany, April 7, 1859; was graduated at the Ascanisches Gymnasium, Berlin; studied medicine and was Professor of Biology at the University of Strassburg in 1888–1890; at Naples in 1889–1891; at Bryn Mawr College, Pa., in 1891–1892; and assistant professor in the University of Chicago in 1892–1895, when he became full professor there. In January, 1902, he presented a new hypothesis in relation to the dynamics of the nervous system.

Loewe, Johann Carl Gottfried, a German composer; born Nov. 30, 1796. His ballads are his most notable bequest to posterity; they are, many of them, remarkable dramatic poems, and in some respects Loewe may claim to have done for the bal-

lad what Wagner did for opera. He died April 20, 1869.

Lofoden, or Lofoten, a chain of islands on the N. W. coast of Norway, stretching S. W. and N. E. for 150 miles. Total area, 2,247 square miles. All of them are rugged and mountainous. The waters on the E. side of these islands are visited in January to March every year by vast shoals of codfish, which attract a large fleet of fishermen. The average number of boats is 5,000 to 6,000, manned by 28,000 to 30,000 men; and the produce of the fishery is about 30,000,000 fish, 24,000 barrels of cod-liver oil, and 25,000 to 26,000 barrels of roe. Besides fishing, sheep-farming is also carried on, as, owing to the influence of the Gulf Stream, the winters are mild and grass grows abundantly. The permanent population number about 20,000.

Log, an apparatus for ascertaining the rate of a ship's motion. In a steam engine, a tabulated summary of the performance of the engines and



LOG AND REEL.

boilers, and of the consumption of coals, tallow, oil, and other engineers' stores on board a steam vessel.

Logan, George, an American statesman; born in Stenton, near Philadelphia, Pa., Sept. 9, 1753. He went to Paris in 1798 to try to avert war with France, and being a private citizen his act was denounced in Congress and led to the passage of the Logan bill. He was elected to the United States Senate in 1801. He died in Stenton, April 9, 1821.

Logan, James, an American colonial official; born in Lurgan, Ireland, Oct. 20, 1674. In 1699 he accompanied William Penn to Pennsylvania as secretary. He afterward was chief-justice and president of the council, discharging in the latter capacity the duties of governor of the province for two years after the demise of Governor Gordon in 1736. He bequeathed his collection of 2,000 books to the Philadelphia library, and died near Germantown, Pa., Oct. 31, 1751.

Logan, John, a name given Tahgah-jute, an American Indian chief; born about 1725. He was very friendly to the whites, among whom he lived for many years near Reedsville, Pa. In 1770 he removed to Ohio, where in 1774 his family were massacred by a party of whites. He retaliated by instituting a war against the white settlers, and in one of the skirmishes was killed near Detroit in 1780.

Logan, John Alexander, an American soldier and statesman; born in Jackson co., Ill., Feb. 9, 1826. The Mexican War broke out when Logan was 20, and he at once enlisted and was made a lieutenant. He enlisted on the outbreak of the Civil War, and rose to the rank of Major-General, being distinguished throughout the struggle for valor and patriotism; elected United States Senator from Illinois 1871–1877–1883–1889; was nominated for the vice-presidency on the ticket headed by James G. Blaine, 1884, but was defeated. He died in Washington, D. C., Dec. 26, 1886.

Logan, Mount, a peak in the Alaskan Alps, said to be the highest point in North America. Its altitude is 19,500 feet.

Logan, Olive, an American miscellaneous writer; born in Elmira, N. Y., April 16, 1841. She began her career as an actress in Philadelphia, 1854; retired from the stage in 1868; since then has been a lecturer on social topics and a contributor to newspapers and magazines.

Logan, Sir William Edmond, a Canadian geologist; born in Montreal, Canada, April 20, 1798. In 1842–1871 Logan was director of the Canadian Geological Survey. He was the discoverer of the Stigmaria underclays. He was knighted in 1856, and died in Wales, June 22, 1875.

Logarithm, a mathematical term. The logarithm of a number is the ex-

ponent of the power to which it is necessary to raise a fixed number, called the base, to produce the given number.

Loggia, an Italian word signifying an open arcade enclosing a passage or open apartment. It is a favorite class of building in Italy and other warm countries.

Logic, a development and modification of the art of reasoning, which Aristotle, utilizing the labors of his predecessors, molded into something like consistent shape. Inductive logic is the science which treats of inductive reasoning, by which, broadly speaking, a general proposition is inferred from a number of particular propositions. Modified logic is that logic which is concerned in the investigation of truth and its contradictory opposite error; of the causes of error, and the impediments to truth and their removal, and of the subsidiaries by which human thought may be strengthened and guided in its functions.

Logomania, a disease of the faculty of language generally associated with the organic disease of the nervous structure, as in paralysis. In this disease, while conceptions and ideas remain clear, the power of associating these with the words by which they are expressed is lost, and the patient can either not give any names to his conceptions at all or expresses them erroneously.

Logos, a Greek term denoting the word by which the inward thought is expressed.

Log-rolling, the rolling of logs to the river after they are cut and trimmed, as is the custom with lumbermen in many of the States. Also a term used for maneuvers of politicians, by which they seek to secure cooperation in carrying favorite measures through legislatures and other bodies.

Logwood, a wood used as a red dye stuff.

Lohengrin, the hero of an old High German poem, written in the end of the 13th century. He was the son of Parzival, and a knight of the Grail. At King Arthur's command he was taken by a swan through the air to Mainz, where he fought for Elsa, daughter of the Duke of Brabant, overthrew her persecutor, and married the lady. Elsa, contrary to his prohibition, persisted in asking him about his origin. After being asked a third time he told her, but was at the same time carried away by the swan back to the Grail. Wagner made it the subject of his great opera, "Lohengrin."

Loher, Franz von, a German writer; born in Paderborn, Oct. 15, 1818. He visited the United States and Canada in 1846 to gather material for a history of the Germans in America, etc. He died in Munich, March 1, 1892.

Loire, the longest river in France, rising in the Cevennes, following, in general, a W. course to its embrouchure in the Bay of Biscay. It is tidal to Nantes, 35 miles from its mouth; entire length, 620 miles. It becomes navigable a little above Roanne, 550 miles from the sea.

Loire, a department in the S. E. of France, with St. Etienne for its capital; area, 1,838 square miles; pop. (1901) 644,532.

Loire, Haute, a department of Central France. The Loire crosses it going N., the Allier going N. W.; area, 1,915 square miles; pop. (1901) 306,671.

Loire Inferieure, a maritime department in the W. of France, with Nantes for its capital; area, 2,654 square miles; pop. (1901) 656,998.

Loiret, a department of Central France, on the N. loop of the Loire; area, 2,614 square miles; pop. (1901) 363,812.

Loir-et-Cher, a department of France; area, 2,452 square miles; pop. (1901) 274,836.

Loiseau, Jeanne, pseudonym Daniel Lesueur, a French poet and romantic writer; born in Paris in 1860. She ranks among the best of French contemporary poets.

Lokao, a crude dye, originally imported from China under the name of Chinese green, but now extracted from the berries of the common buckthorn. It contains 30 per cent. of mineral matter.

Lollard, a name given to a religious association which arose at Antwerp about the beginning of the 14th

century. Walter Lollard, who was burned alive at Cologne in 1322, is said to have been the founder, but it seems to have existed before his time. The members were unmarried men and widowers, who lived in community under a chief, reserving to themselves the right of returning to their former mode of life. In 1472 the Pope constituted them a religious order. The name, having become one of contempt, was applied to the followers of Wyclif. While Richard II. reigned, the persecution of the Lollards was not heartily favored by the court, but on the accession of the House of Lancaster in 1399 a change for the worse took place. The first Lollard martyr was William Sautre, who was burnt in London, February 12, 1401. Early in 1414 a conspiracy of Lollards under the leadership of Lord Cobham was alleged to have been detected, and he was committed to the Tower of London, but escaped. Being recaptured, he was put to death by cruel torture in St. Giles' Fields, London, on Dec. 25, 1418.

Lollardism, the tenets of the followers of John Wyclif. In so far as they departed from Roman Catholicism, they approached, and, in some cases, went beyond what subsequently became the doctrine and discipline of Calvinism or Puritanism.

Lolos, a fair-complexioned aboriginal people on the frontiers of China and Tibet.

Lombard, Peter, a French philosopher; born about the beginning of the 12th century at a village near Novara in Lombardy. He died in 1159.

Lombardic Architecture, the style of architecture that prevailed in Lombardy and part of Upper Italy, and which for a long time was recognized as a distinct Lombard style, presenting essential points of difference from the other later Romanesque styles. In the Lombard churches the type of early Christian architecture was abandoned, and the vaulted basilica was introduced in its stead.

Lombards, a people of Germanic descent, who were called by the Latin writers Longobardi. Charlemagne in 774 overthrew the Lombard dynasty and had himself crowned King of the Franks and the Lombards; thenceforward the Lombards were entirely merged in the Italians.

Lombard College, a coeducational institution in Galesburg, Ill.; founded in 1851 under the auspices of the Universalist Church.

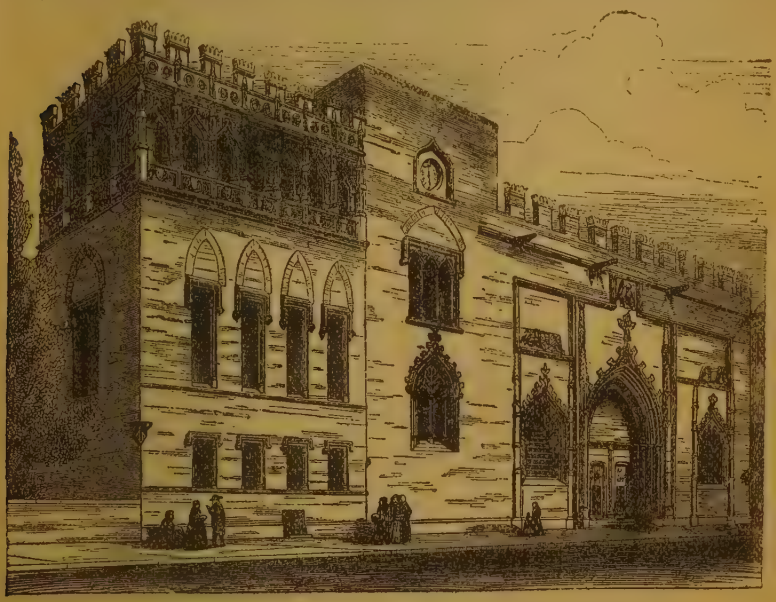
Lombardy, that part of Upper Italy which lies between the Alps and the Po, having the territory of Venice on the E., and Piedmont on the W. Its history begins with the conquest by the Romans in 222. After the Roman empire it was successively in the hands of Odoacer, the Ostrogoths, the Byzantine emperors, and the Lombards. Charlemagne incorporated it in his empire, but from 843 it was ruled by a separate line of kings, though before the kingdom ended (961) it had broken up into a number of independent duchies and civic republics. After the death (1447) of the last Duke of Milan, Lombardy passed to Spain, which held possession of it till 1713, when the duchies of Milan and Mantua came into the hands of Austria and were designated "Austrian Lombardy." Napoleon made it a part of the Cisalpine republic, the Transpadane republic, and the kingdom of Italy successively. But in 1815 it was restored to Austria, and annexed politically to the newly-acquired Venetian territory under the name of the Lombardo-Venetian Kingdom. This union was dissolved in 1859, when Lombardy was given up to the new kingdom of Italy.

Lombok, an island, belonging to the Dutch, in the Indian Archipelago; between Bali on the W. and Sumbawa on the E.; area, 2,393 square miles.

London, the capital of the United Kingdom of Great Britain and Ireland and the largest city in the world; on the Thames, about 40 miles from its mouth. London consists of the city of London, having an area of 670 acres, and the county of London, having an area of 74,772 acres, the total area of London being 75,442 acres. For parliamentary purposes the county of London comprises the city and 27 boroughs.

The administrative county of London contains the parishes, districts and places constituted for sanitary purposes by the Metropolis Management Act of 1855. It is also the area of administration of the London School

Board, and the Metropolitan Poor Law system now embraces the whole of London. The metropolitan and city police districts together, extending to 15 miles round Charing Cross, embrace an area of 443,421 acres, with a population of 6,580,616 in 1901. The population of the city of London, within municipal and parliamentary limits — that is, the old city — was only 26,897 in 1901, showing a decrease in ten years of nearly fifty per cent, consequent on dwellings giving



LOMBARDIC ARCHITECTURE: LONJA PALACE, VALENCIA.

place to business structures, and the population of the Metropolitan Parliamentary Boroughs, including the city, which is altogether the area commonly known as London, was 4,542,725 in 1901. London is one of the healthiest of the large cities of Europe.

"The City" — the historic center of London — at the present day is bounded S. by the Thames; it extends N. to Charterhouse Square, E. to Middlesex street, and W. to the New Law Courts. Till 1878 this last boundary was marked by an old gateway, which was called Temple Bar, crossing Fleet street near the Temple; but in that year this structure was removed, as forming an impediment to traffic which could no longer be suffered, and a memorial was erected on the site. The portion of the City inside the area of the mediæval walls is known as "London within the walls"; and all the wards are bounded by the site of the old walls; the portion outside extends irregularly all around, and is known as "London without the walls."

Of the parks the finest and most fashionable is Hyde Park, which lies between the Uxbridge and Kensington Roads, and contains about 400 acres. Kensington Gardens, with which Hyde Park communicates at several points, are beautifully wooded and finely laid out. St. James' Park (83 acres) extends from Buckingham Palace to the

Horse Guards, and in its center is an ornamental sheet of water, studded with islets covered with trees and shrubs, and around which swim a great variety of aquatic fowls. The Green Park, 71 acres in extent, lies between St. James' Park on the S. and the Piccadilly on the N. Regent's Park, on the N. side of London, covers an area of over 400 acres. Battersea Park is on the S. bank of the Thames, opposite to Chelsea Hospital. Greenwich Park is one of the most delightful features of South London, and has great natural beauties. The famous Greenwich Observatory is situated here. There are many other parks acquired for the use of the public during late years.

The squares of London are very characteristic, and many of them are of great beauty and extent, and well planted with shrubbery, which usually thrives well. The most conspicuous public monuments are: "The Monument," on Fish Street Hill, London Bridge, a fluted Doric column 202 feet high, erected in 1677 in commemoration of the great fire of London; the York Column, at the S. end of Waterloo Place, a plain Doric pillar of granite 124 feet high, surmounted by a bronze statue of the Duke of York; a fluted Corinthian column in Trafalgar Square, 176½ feet high, raised in honor of Nelson, and surmounted with a colossal bronze statue of the hero, with four magnificent lions, at the angles; and the Albert Memorial, Hyde Park, the most splendid and costly monument of recent times, being a Gothic structure 176 feet high, with a colossal seated statue of the prince under a magnificent canopy elaborately sculptured and adorned. On the Thames Embankment, not far from the Temple, now stands the Egyptian obelisk known as Cleopatra's Needle; and W. of it are statues of Robert Raikes, the founder of Sunday-schools, John Stuart Mill, and others. In Waterloo Place is a memorial to the Guards who fell in the Crimea, and here is also a statue of Sir John Franklin.

London is now supplied with gas by eight separate companies, which include in their area of supply a considerable district outside London. The sewerage works of London, with which the Metropolitan Board was charged, were formally opened on April 4, 1865. The system consists of lines of intercepting sewers on both sides of the Thames intersecting the old outlets which are retained for service during heavy rainfalls. The total length of the sewers is 82 miles, and the area drained is 120 square miles. The whole system has cost about $30,000,000. The metropolitan water supply has been considerably amended of late years. There are eight companies supplying London and an extensive area around extending into Middlesex, Essex, Kent, and Surrey. The total quantity of water supplied by these companies amounts to over 200,000,000 gallons daily.

Tunnels as well as bridges enable the vast population to pass under and over the Thames. The once famous Thames tunnel, 2 miles below London Bridge, was opened in 1843 as a roadway under the river, having cost £614,000, but it proved a financial failure, and now serves as a railway tunnel.

St. James' Palace erected by Henry VIII. from a design by Holbein, is an irregular and picturesque brick building. It is well adapted for royal levees, which are held here during the fashionable season. Buckingham Palace was built by George IV., and consists of a quadrangular range of buildings. In the gallery, which is 160 feet long, are some good pictures. The king resides here occasionally in the spring and summer. Whitehall — the Banqueting House — is the only remnant of the ancient palace of Whitehall; the ceiling, painted by Rubens, is the most extensive work of that artist existing in the country. Kensington Palace, situated in Kensington Gardens, is a brick building of the Jacobean period, and was thrown open to the public by Queen Victoria shortly before her death. Lambeth Palace has been for many centuries the residence of the Archbishops of Canterbury. It is a brick edifice, and contains a library of 30,000 volumes. Fulham Palace, the residence of the Bishops of London, is a building of no architectural pretensions. Greenwich Palace, once the home of the Tudor and Stuart sovereigns is a stone building of considerable beauty, now used as a training school for the navy.

The House of Peers and the House of Commons, with the connected apart-

ments and offices, practically form one structure. It stands on the left bank of the Thames, between the River and Westminster Abbey, and extends over an area of about 8 acres. It is paneled with rich tracery, and profusely decorated with statues and shields of arms of the Kings and Queens of England from the Conquest to the present time. In the S. W. angle is the Victoria Tower, 340 feet in height. There is also a tower in the center, 300 feet high, surmounted by a lantern; and the clock tower, at the N. end of the edifice, with its richly-decorated spire, rises 320 feet. The House of Peers is an apartment 97 feet long, 45 feet wide, and 45 feet high; magnificently decorated throughout. The House of Commons is a somewhat smaller apartment, fitted up in a much plainer style. Westminster Hall, the most magnificent hall in the kingdom, 290 feet long, was built by William Rufus and improved by Richard II. It has recently been exposed on the W. side, the ground laid out as an ornamental garden, and a fine statue of Cromwell erected therein. The hall is now not used except as a members' entrance to the House of Commons.

The government offices are mostly situated in and near Whitehall. The Treasury, Home Office, and Education Department occupy one range of buildings. The India Office and the Local Government Board faces St. James' Park. The Horse Guards and Admiralty, are somewhat nearer Charing Cross. An extensive pile of government offices, for the Foreign Office and the Colonial Offices, has been erected in Downing street. Some of the public offices are in Somerset House, once a royal palace. The postoffice near St. Paul's, is a spacious and handsome building, completed in 1829. It is 390 feet long, 130 feet wide, and 64 feet high. Its facade, which is toward St. Martin's-le-Grand, has three Ionic porticoes. A supplemental building for telegraph and other business occupies the opposite side of St. Martin's-le-Grand. The Mint, a stone building of the ordinary Georgian architecture, finished in 1810, stands on Tower Hill, and occupies about 10,000 square yards. The royal arsenal and dockyard for military stores is at Woolwich.

The Tower, which formed the dominating feature of Norman London, stands on the N. bank of the Thames, immediately adjoining the boundary of the city. Besides its use as a fortress the tower was likewise the temporary residence of several kings and queens of England, but it is now only used as a storage for armor. It occupies an area of 12 acres, inclosed within a wall surrounded by a ditch, and laid out as a garden. On the S. side is an archway called the "Traitors' Gate," through which State prisoners were brought from the river. The most ancient part of the existing edifice is the keep, known as the White Tower, which was erected about 1078 for William the Conqueror. It stands near the center of the quadrangle, around which are placed several other towers, each having its distinctive name. The Tower contains the Wellington Barracks, the jewel room, in which are preserved the regalia of Great Britain; the horse armory, Queen Elizabeth's armory; and the Church of St. Peter-ad-Vincula.

St. Paul's Cathedral stands on the summit of Ludgate Hill. Old St. Paul's was destroyed by the great fire of 1666. The present church, on the same site, was begun in 1675, and completed in 1710. It is 510 feet in length from E. to W., while the transept is 250 feet, exclusive of the semicircular portico at each end; the breadth of the W. front is 180 feet, and the height of the walls 110 feet. The building is crowned with an immense dome, surmounted by a lantern with ball and cross, the height of the latter being 404 feet from the ground. Westminster Abbey, one of the finest specimens of the Pointed style in Great Britain, dates from the reign of Henry III. and Edward I. The beautiful chapel at the E. end was added by Henry VII., and at the beginning of the 18th century the upper parts of the two towers at the W. end were erected. It is 360 feet long, and 195 feet wide within the walls. Here kings and queens have been crowned, from Edward the Confessor to Edward VII.; and here many of them are buried. In the S. transept are the tombs and honorary monuments of great poets, from Chaucer down to Tennyson, whence it is called "Poets' Corner"; and in other parts are numer-

ous sculptured monuments to eminent individuals generally, many of whom are interred within its walls. Among Roman Catholic Churches in London are St. George's Cathedral, in Southwark, finished in 1848, and the magnificent new cathedral now being erected at Westminster. Many of the Nonconformist Churches are handsome structures. Among the finest of them are the City Temple on the Viaduct, opened in 1874; Christchurch in Westminster Bridge road; the Apostolic Church in Gordon Square; and the Tabernacle, originally erected for the Rev. C. H. Spurgeon.

The Bank of England, in Threadneedle street, was built in 1732, and now forms a low, flat, insulated, irregular parallelogram covering 4 acres of ground. The Mansion House, the official residence of the lord-mayor, was built in 1739–1753. The Guild-hall, Cheapside, is where the principal business of the corporation of the city of London is conducted. The civic banquets are given here. A splendid new council chamber was completed in 1885. The hall is capable of seating 3,000 persons; at the W. end, raised on pedestals, are colossal figures of Gog and Magog.

London is the seat of the supreme courts of the kingdom. Several of these were long accommodated at Westminster Hall, but in 1883 were removed to the New Law Courts at the junction of the Strand and Fleet street. This great building occupies an area of nearly 4 acres. It is of a somewhat heavy mediæval character, a large W. tower being a chief feature. The Old Bailey, adjoining Newgate, is the central criminal court for the trial of prisoners who have committed serious offenses in the metropolitan district. One or more of the judges of the law courts sit here also in the old court, while the new court is presided over by the recorder and common sergeant of the city of London. There are numerous county courts within London for the trial of small debt cases.

The British Museum, founded in 1753, contains an immense collection of books, manuscripts, engravings, drawings, sculptures, coins, minerals, stuffed animals, fossils, preserved plants, etc., and a magnificent collection of ethnographical objects, Egyptian, Assyrian, Etruscan, Greek, and other antiquities. The reading room is of circular form, 140 feet in diameter, with a domed roof 160 feet high. An extensive building (about 650 feet long) has been erected in the South Kensington quarter for the accommodation of the natural history collections.

At the head of the educational institutions stands the University of London, with which are associated University College and King's College. This has now been made by act of Parliament a teaching university. It embraces besides the two above-named colleges, the Inns of Court, the various medical schools attached to the hospitals, the London School of Economics, and other institutions, and promises to become the foremost scientific university in the kingdom; the Royal Naval College, Greenwich; the Royal Military Academy, Woolwich; the Royal College of Science; the medical schools attached to the hospitals; Royal Academy of Music; Royal College of Music; Trinity College, chiefly for music; several colleges for ladies, etc. Among the grammar and secondary schools are: St. Paul's School, founded in 1509; Christ's Hospital (1552); Westminster School, founded by Queen Elizabeth in 1560; University College School, King's College School, City of London School, Mercers' School, and schools of the several city companies. Besides the above and numberless private schools, there are the City and guilds institutions for technical education, many high schools for girls, many free schools, numerous schools of the National Society, and more than 400 schools of the London School Board.

London abounds with hospitals for the cure of disease, as well as other charities. Among these are the three great endowed hospitals: St. Bartholomew's Hospital, in West Smithfield; Guy's Hospital, Southwark; and St. Thomas' Hospital, Lambeth, occupying a large and splendid range of buildings on the Thames Embankment opposite the Houses of Parliament.

Extramural interment is of very recent date. Kensal Green Cemetery, in which several royal personages have been buried, was opened in 1832; it occupies about 48 acres of ground, and is tastefully planted and laid out.

The cemeteries at Kensal Green, Brompton, the Tower Hamlets, Bethnal Green, Nunhead, and Norwood are the only intramural places in which interments are permitted, excepting in the case of interments in St. Paul's and Westminster Abbey. At the Woking Cemetery, which occupies above 2,000 acres, the poor of several of the London parishes are buried, special railway accommodation being provided for cemetery traffic.

The London population commands two systems of locomotion, namely, internal and external. The former has reference to the purely London requirements, and is by means of omnibuses, cabs, street cars, steamboats, and railways; the latter has reference to the connection of London with the rest of the kingdom and the Continent, and is by canals, railways, and the Thames. The number of passengers in one year traveling by omnibus is nearly 200,000,000, and by street cars, nearly 300,000,000. But side by side with all this activity along the roadways, the Thames has almost been allowed to drop out of existence as a local travelers' route.

The port of London extends from London Bridge to the Nore. It is under the care of the corporation of the city for sanitary purposes, under the Thames Conservancy for navigation and under all sorts of other authorities for various other purposes. The tide rises 18 feet at springs and 14 feet at neaps at the London docks; and the depth at low water, spring tides, on the outer sill of St. Katherine's docks, is 10 feet. The largest of these older docks is the West India import dock, 2,600 feet long and 500 broad. The dock accommodation of the port was greatly increased by the construction of the Victoria and Albert docks, which follow next in order on the N. side of the river (opposite Woolwich) and have a combined length of 2¾ miles, with a water area of 175 acres. The Victoria dock was opened in 1855, the Albert dock in 1880. The depth over the sill of the E. entrance of the latter at high water is 30 feet.

The most ancient civic officer of London is the lord-mayor of the city of London. He is annually elected from among the aldermen who have been sheriffs of the city, on Sept. 29 and installed in office on Nov. 9, when a procession takes place, called the lord-mayor's show. The court of aldermen consists of 26 members, including the lord-mayor. They are chosen for life by the taxpayers of the 26 wards into which the city is divided, each being the representative of a separate ward. They are properly the subordinate governors of their respective wards, under the jurisdiction of the lord-mayor. The civic sheriffs, two in number, are annually chosen by the general assembly of the freemen of London. The common council consists of 206 representatives returned by 25 of the wards; the 26th being represented by an alderman. The general business of this court is to legislate for the internal government of the city, its police, revenue, etc. The recorder is generally a barrister of eminence, appointed for life by the lord-mayor and aldermen as principal assistant and adviser to the civic magistracy and one of the justices of oyer and terminer. The "livery" of London is the aggregate of the members of the several city companies, of which there are 75. Of these, 12 are termed great companies and from one or other of them the lord-mayor was formerly chosen. In order of precedence they are: The Mercers, Grocers, Drapers, Fishmongers, Goldsmiths, Skinners, Merchant Tailors, Haberdashers, Salters, Ironmongers, Vintners, Clothworkers. Many of the companies are very rich and possess large halls. Besides the ancient city of London there are now constituted, under the act of 1899, 28 new boroughs, each of which for local purposes is governed by a mayor, aldermen, and council. The governing authority for the entire county of London is the county council which consists of the chairman of the council, 19 aldermen and 118 councillors, the latter being elected by the taxpayers of the several divisions, which are, however, not coincident with the boroughs. There are also two other governing bodies for the county, the School Board and the Metropolitan Asylums Board, the former elected by the taxpayers, the latter by the Boards of Guardians.

The city police, confined to the city proper, is administered by the city corporation as a municipal force and numbers about 900 men. The metro-

politan police is not municipal. It is administered by a commissioner appointed by the Home Office. It consists of over 15,000 men, whose central offices are New Scotland Yard, a massive building on the Embankment near Westminster bridge. Its area of jurisdiction extends for 15 miles from Charing Cross, considerably beyond London.

Londonderry, the capital of the county of Londonderry, Ireland; on the Foyle, 120 miles from Dublin; the old walls, flanked with bastions, which were built in the year 1614, still remain in fine repair, and are an ornament to the place. Pop. (1901) 39,873.

Lone Star State, The, Texas; the name being derived from the device on its coat of arms.

Long, Charles Chaille, an American military officer; born in Princess Anne, Somerset co., Md., July 2, 1842. He enlisted in the Union army in the Civil War and attained the rank of captain. In 1869 he was appointed lieutenant-colonel in the Egyptian army; in 1874 he was made chief of staff to General Gordon; in 1877 he returned to the United States, studied at the Columbia Law School, and was admitted to the bar. He was appointed consul-general in Korea in 1887.

Long, Crawford W., an American physician; born in Danielsville, Madison co., Ga., Nov. 1, 1815. He was one of the claimants of the discovery of the use of anæsthetics in surgical operations. He died in Athens, Ga., June 16, 1878.

Long, Edwin, an English painter; born in 1839. He acquired a high reputation as a painter of historical scenes from Eastern history. He died in 1891.

Long, John Davis, an American statesman; born in Buckfield, Oxford co., Me., Oct. 27, 1838. He was graduated from Harvard College in 1857; studied law and was admitted to the bar; was a member of the Massachusetts Legislature, speaker of the house three years, lieutenant-governor of his State in 1879 and governor in 1880–1881, and 1882; elected to Congress and was for several years on the state-house construction commission of his State; appointed by President McKinley Secretary of the Navy in 1897 and 1901. On the accession of President Roosevelt, Mr. Long retained his office for a time, but has since withdrawn to private life.

Long, Stephen Harriman, an American engineer; born in Hopkinton, N. H., Dec. 30, 1784; died in Alton, Ill., Sept. 4, 1864.

Long Branch, a city in Monmouth co., N. J.; on the Atlantic Ocean, 42 miles S. of New York city. In the early part of the administration of President Grant it became popularly known as the "Summer Capital of the United States." President Garfield died in Francklyn cottage at what is now Elberon, a short distance below the present city. It does not hold its former position among summer resorts.

Longfellow, Henry Wadsworth, an American poet; born in Portland, Me., Feb. 27, 1807; was graduated at Bowdoin College. While at college he distinguished himself in the study of modern languages, and published some short poems. In 1826 he accepted the professorship of modern languages at Bowdoin, being allowed three years to prepare himself for the post by study and travel in Europe. He was elected to the chair of modern languages and literature in Harvard University. After spending another year in Europe, studying Scandinavian languages and literature, he entered on his professorship in 1836. In 1839 he published "Hyperion, a Romance"; "Evangeline" in 1847; in 1855 "Hiawatha"; in 1858 the "Courtship of Miles Standish"; in 1863 "Tales of a Wayside Inn"; in 1871 the "Divine Tragedy"; in 1874 "The Hanging of the Crane." He resigned his chair at Harvard in 1854. In 1868–1869 he again traveled in Europe, and received the degree of LL. D. and D. C. L., from the Universities of Cambridge and Oxford respectively. His poems are equally popular on both sides of the Atlantic. He died in Cambridge, Mass., March 24, 1882.

Longfellow, Samuel, an American clergyman, brother of Henry W. Longfellow; born in Portland, Me., June 18, 1819. He was graduated at Harvard College in 1839 and at the Divinity School in 1846. Later he settled in Cambridge, Mass. As a hymn-

writer he had few equals. He died in Portland, Me., Oct. 3, 1892.

Long Island, an island forming part of the State of New York; 115 miles in extent and about 12 miles broad; area, 1,682 square miles; pop. (1900) over 1,250,000. It is connected with the Borough of Manhattan by two suspension bridges. The island is divided into Kings, Queens, and Suffolk counties, and of its area that portion comprising Kings and Queens counties forms part of the city of New York under the designation of Borough of Brooklyn and Borough of Queens, respectively.

Long Island Sound, a large body of water lying between Long Island and New York and Connecticut; length, about 110 miles; width varying from 2 to 20 miles. It is in the route of a very large and important trade between the city of New York and the East, and is navigated by numerous regular lines of packets and steamers. There are 15 lighthouses on its coasts.

Longitude, in astronomy, the distance in degrees reckoned along the ecliptic from the spring equinox to a circle at right angles to it passing through the heavenly body whose longitude is required. In geography, distance on the surface of the globe. Longitude, in the United States, is reckoned from the meridians of Washington, Greenwich, and Paris.

Long Parliament, in English history, a Parliament summoned by Charles I. It met at Westminster, Tuesday, Nov. 3, 1640, and continued its sittings until it was dissolved by Cromwell, April 20, 1653.

Long's Peak, one of the highest peaks of the Rocky Mountains in Colorado; it is 14,271 feet high.

Longstreet, Augustus Baldwin, an American educator; born in Augusta, Ga., Sept. 22, 1790. He was graduated at Yale College in 1813, studied law at Litchfield, Conn., and was admitted to the bar in Richmond co., Ga., in 1815. In 1838 he entered the Methodist Episcopal ministry, and later was president of several Southern universities. He died in Oxford, Miss., Sept. 9, 1870.

Longstreet, James, an American military officer; born in Edgefield district, S. C., Jan. 8, 1821. He was graduated at the United States Military Academy in 1842. He served with distinction in the Mexican War. Longstreet was appointed, in July, 1858, paymaster in the regular army. Resigning his commission and joining the Confederates, June 1, 1861, he was appointed to the command of the 4th brigade of General Beauregard's 1st corps, and was present at the defeat of the National army at Bull Run, July 21. After the battle of Fredericksburg, Dec. 13, 1862, General Longstreet was given the command of a corps, with the rank of Lieutenant-General. With this force he took an active part in the battles of Chancellorsville (May 2–5, 1863) and Gettysburg (July 1–3); and the gallantry and skillful generalship he displayed on all occasions caused him to be regarded as one of the leading generals in the Confederate army. In the battle of the Wilderness (May 5, 6, 1864), he was dangerously wounded. After the fall of Richmond he surrendered, and lived in retirement till 1869, when he was appointed Collector of Customs at New Orleans. Later he was made minister to Turkey, and United States marshal for the District of Georgia. In 1897 he was appointed United States commissioner of Pacific railroads.

Long Tom, the name given a 42-pound gun captured by the British in 1798 from the French battleship "Hoche." It was afterward purchased by the Americans and remained idle till 1812, when it was placed on the "General Armstrong." This vessel ran the British blockade at New Orleans, Sept. 9, 1814, and was obliged to put into the bay near Horta, Fayal, after being disabled in an encounter with a British squadron. Here the gun was dismantled and remained till, through the efforts of Col. Reid, son of the commander of the "General Armstrong," it was brought back to New York on the steamer "Vega," April 18, 1893.

Longworth, Nicolas, an American horticulturist; born in Newark, N. J., Jan. 16, 1782. In 1803 removed to Cincinnati. His property was estimated at from $10,000,000 to $15,000,000. He died in Cincinnati, O., Feb. 10, 1863.

Lonnrot, Elias, a great Finnish scholar and folklorist; born in Sammatti, Nyland, Finland, April 9, 1802. He made a collection of more or less ancient Finnish folk-songs, "The Lyre" (1829–1831). His latest work was a Finnish Dictionary. He died in Sammatti, March 19, 1884.

Lookout Mountain, a high point in the ridge of mountains running through Northwestern Georgia and adjacent parts of Tennessee and Alabama. It overhangs the Tennessee river near Chattanooga, and from the top, 1,600 feet above the river, seven States can be seen. It was there that during the Civil War, the famous "battle above the clouds" took place between the Confederate force under General Bragg, holding the mountain, and the Union forces, under General Hooker. The latter scaled the almost precipitous sides of the mountain, and surprised the enemy, dislodging them and compelling them to retreat after a desperate conflict. This was on Nov. 24, 1863, and the following day the Union flag was hoisted on Pulpit Rock on the summit of the mountain. This victory gave the Union army unimpeded navigation of the river Chattanooga.

Loomis, Elias, an American physicist; born in Willington, Conn., Aug. 7, 1811. He was graduated at Yale College in 1830. Professor Loomis devoted much of his time to original research, was the author of over 100 scientific treatises, and published a series of text-books on mathematics, natural philosophy, astronomy, and meteorology. He died in New Haven, Conn., Aug. 15, 1889.

Lopes, Caetano, a Brazilian historian; born in Bahia in October, 1780. He died in Paris, Dec. 22, 1860.

Lopez, Carlos Antonio, President of Paraguay; born near Asuncion about 1795. He was made president of Paraguay in 1844. He was the cause of many quarrels with foreign nations, and in 1859 the United States sent a naval force to the Plata to enforce demands against him. He died near Asuncion, Sept. 10, 1862.

Lopez, Francisco Solano, President of Paraguay; born in Asuncion in 1827; son of Don Carlos Antonio Lopez, then president. His early education was neglected. After the death of his father in 1862, he was president for 10 years. He had long been aiming at the foundation of a great inland empire, and as his military preparations were complete, and his army superior to that of any of the South American States, he took opportunity in 1864 to commence hostilities against Brazil. He was surprised on the banks of the Aquidaban by a troop of Brazilian cavalry and slain, March 1, 1870, and his ambitious attempt resulted almost in the extinction of the male population of Paraguay, and the reduction of that republic to a position of dependence on Brazil and Argentina, while nominally retaining its independence.

Lopez, Jose Hilario, President of New Granada; born in Popayan, Feb. 18, 1798. He was president of New Granada, Colombia, from March 7, 1849, to March 7, 1852. In the latter year of his administration slavery was abolished. He died in Neiva, Nov. 27, 1869.

Lopez, Narciso, a Spanish-American filibuster; born in Venezuela in 1798 or 1799. He fought against the patriots in Venezuela and against the Carlists in Spain. In 1841 he went to Cuba, but on account of his revolutionary opinions was obliged to fly to the United States. He was at the head of three filibustering expeditions, the first, in 1849, was suppressed by the United States authorities; the others reached Cuba but resulted in disaster; and Lopez, with a number of his followers, was captured and publicly executed in Havana, Cuba, Sept. 1, 1851.

Lopez y Planes, Vicente, an Argentine poet; born in Buenos Ayres in 1784. He wrote the "Argentine National Hymn" and other poetical works. Died in Buenos Ayres in 1856.

Lord. The five orders of English nobility constitute the lords temporal, distinguished from the prelates of the Church, who constitute the lords spiritual in the House of Lords. Lord is also applied to persons holding certain offices; as, the Lord Chief-Justice, the Lord-Mayor, etc.

In the translation of the Scriptures, Lord is used, without much discrimination, for all the names applied to God. In the New Testament it is applied to Jesus Christ.

Lord, John, an American historian; born in Portsmouth, N. H., Sept. 10, 1812. He spent most of his life in historical study and lecturing; three years (1843–1846) were passed in England, where he spoke on "The Middle Ages." His lectures were delivered in the principal towns and cities of the United States. He died in Stamford, Conn., in 1894.

Lord, William Wilberforce, an American clergyman; born in Madison co., N. Y., Oct. 28, 1819. He was clergyman in the Protestant Episcopal Church; chaplain of the Confederate army in the Civil War; and published a volume of "Poems" (1845), that were ridiculed by Edgar A. Poe and praised by Wordsworth.

Lord Chamberlain, an officer in England who has control of the establishment attached to the chapels royal; of officers and servants attached to the royal chambers, except of those of the bedchamber; and over the medical men of the household. He directs all great royal ceremonies, superintends the royal wardrobe and the jewel house at the Tower, and licenses theaters and plays, his power extending to the cities of London and Westminster, and certain other parts of the metropolis, as well as to those places within which the sovereign may reside occasionally.

Lord Great Chamberlain, a State office of great antiquity entirely distinct from that of Lord Chamberlain of the Household. The Lord Great Chamberlain assists, with the Earl Marshal, at the ceremony of the introduction of new peers; he issues tickets for the opening and prorogation of Parliament, and orders of admission for viewing the House of Lords when Parliament is not sitting. He arranges the preparation of Westminster Hall for a coronation, the trial of a peer, or for any other ceremony taking place therein. He walks on the right of His Majesty when he opens Parliament in person. The office is hereditary, and at present is held by the Earl of Ancaster.

Lord-Lieutenant, a British official of high rank, representing the sovereign, as: (1) The Viceroy, or Lord-lieutenant of Ireland, who is a member of the ministry, retiring from office with them. He has the control of the government of the country, subject to the approval of the ministry in office, and nearly all the patronage is also vested in him. He can confer knighthood. (2) The lord-lieutenant of a county, the principal official of a county.

Lord Mayor, the title given to the chief magistrates of London, England, and of Dublin, Ireland, and York, during the year they hold office.

Lord's Day, a day first named in Rev. i: 10, where the sacred writer says, "I was in the spirit on the Lord's day." "The Lord" in the New Testament generally referring to the Lord Jesus, the Lord's day was probably that celebrating His resurrection, viz., the first day of the week.

Lord's Prayer, the prayer which Jesus taught His disciples (Matt. vi: 9–13), and which is used in public worship, whether liturgical or not.

Lord's Supper, a term first used by St. Paul in I Cor. xi: 20, of a ceremonial ordinance observed in the Corinthian and doubtless in other churches. The night on which Jesus was betrayed, He took bread, blessed it, brake it, and gave it to His disciples to eat, with wine similarly blessed for them to drink, the former in the Protestant view symbolizing His broken Body, the latter His shed Blood. St. Luke records that Jesus said, "Do this in remembrance of me." St. Paul evidently considered that these words, addressed originally to the apostles, were designed for the Church of all ages.

Lorelei, or **Lurlei,** a rock which rises perpendicularly from the Rhine to the height of 427 feet, near St. Goar. But the name is best known from Heine's song of the siren who sits on the rock combing her long tresses, and singing so ravishingly that the boatmen, enchanted by the music of her voice, forget their duty, and are drawn on the rock and perish.

Lorente, Sebastian, a Peruvian historian; born about 1820. A Professor of History at the University of San Marcos, he made valuable contributions to the historical literature of his country in his "History of Peru" (5 vols. 1860); "History of the Conquest of Peru" (1861); and articles in the "Peruvian Review." He died in Lima in November, 1884.

Lorimer, George Claud, an American clergyman; born in Edinburgh, Scotland, in 1837; came to the United States in 1856; was educated at Georgetown College, Ky. In October, 1901, he accepted a call from the Madison Avenue Baptist Church of New York city. Editor of the "Watchman" in 1876. He has written: "Under the Evergreens," "Christianity and the Social State," etc.

Loring, Edward Greeley, an American jurist; born in Massachusetts in 1802; was a graduate of Harvard. While probate judge and United States Commissioner at Boston he remanded to slavery the negro Anthony Burns, for which he was removed from the bench. Later he was appointed by President Lincoln judge of the Court of Claims, which post he resigned in 1877. He died in 1890.

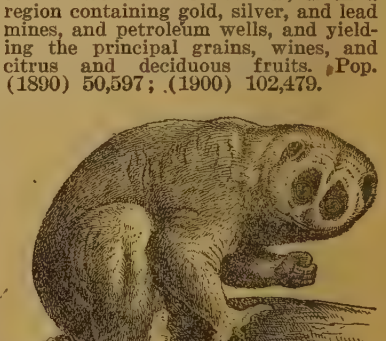
Loring, William Wing, an American military officer; born in Wilmington, N. C., Dec. 4, 1818; joined the United States army as a private in a troop of volunteer cavalry; participated in the Florida War in 1835–1843, becoming 2d lieutenant in 1837. During the war with Mexico he lost an arm at the siege of the City of Mexico; and was brevetted lieutenant-colonel and colonel. In May, 1861, he resigned his commission; became a Brigadier-General in the Confederate army and later Major-General. He went to Egypt in 1869 and was made a pasha and chief of staff in the army of the Khedive. In 1879 he returned to the United States and published "A Confederate Soldier in Egypt." He died Dec. 30, 1886.

Loris, a genus of Lemuridæ, with rounded heads and pointed snouts, slender bodies, very large eyes, and rudimentary tail or none at all. The two species known are both natives of the East Indies. The largest species is not so large as a cat; the other, L. gracilis, is much smaller.

Loris-Melikoff, Michael Tarielovitch Tainoff, Count, a Russian military officer; born in Tiflis, Russia, Jan. 1, 1826. He entered the army in 1843; was made commander of the army in Armenia in 1876, and took Kars. In 1878 he was made a count. In 1880 he was appointed minister of the interior, in which post he showed a tendency toward measures of a wide remedial kind, and had persuaded the czar, Alexander II., to call a kind of national representative assembly, when the assassination of the latter occurred in March, 1881. On the accession of Alexander III. Loris-Melikoff's position became untenable, and he resigned in 1881. He died in Nice, Dec. 22, 1888.

Lory, a tribe of birds composed of several genera, closely allied to the parrots; remarkable for their very soft beaks. They are to be found in most of the islands of the Indian Archipelago and in Australia.

Los Angeles, a city and county-seat of Los Angeles co., Cal.; on Los Angeles river 480 miles S. E. of San Francisco. It is the commercial center for Southern California; is in a region containing gold, silver, and lead mines, and petroleum wells, and yielding the principal grains, wines, and citrus and deciduous fruits. Pop. (1890) 50,597; (1900) 102,479.



LORIS.

Lossing, Benson John, an American historian; born in Beekman, Dutchess co., N. Y., Feb. 12, 1813. He was a voluminous writer, and equally at home in historical, biographical, and critical composition; but his most useful and enduring works were his great "Pictorial Field-Books" of the Revolution, the War of 1812, and the Civil War, etc. He died near Dover Plains, N. Y., June 3, 1891.

Lothrop, Harriet Malford, pseudonym Margaret Sidney, an American novelist, wife of the publisher, D. Lothrop; born in New Haven, Conn.,

in 1844. She was founder and president of the National Society of the Children of the American Revolution.

Loti, Pierre, a French poet and novelist; real name Louis Marie Julien Viaud; born in Rochefort, Jan. 15, 1850. He was a French naval officer. In 1892 he was elected a member of the French Academy. His works include many novels that are public favorites in France.

Lotion, a liquid remedy consisting principally of water, as a menstruum, and applied to circumscribed portions of the skin, or of the mucous surfaces. Lotions are either cooling, stimulating, astringent, soothing, or sedative.

Lottery, a scheme for the distribution of prizes by chance. Lotteries, like every other species of gambling, have a pernicious influence on the character of those concerned in them. As this kind of gambling can be carried on secretly and the temptations are thrown in the way of both sexes, all ages and all descriptions of persons, it spreads widely in a community, and thus silently infects the sober, enconomical, and industrious habits of a people.

Lotus, a name given to various flowers, including several beautiful species of water lily, especially the blue water lily, and the Egyptian water lily which grow in stagnant and

NYMPHAEA LOTUS, OR EGYPTIAN WATER LILY.

slowly running water in the S. of Asia and N. of Africa. The latter grows in the Nile and adjacent rivulets and has a large white flower. The root is eaten by the people who live near the lake Manzaleh. It was the rose of ancient Egypt, the favorite flower of the country, and was often made into wreaths or garlands.

Lotze, Rudolf Hermann, a German philosopher; born in Bautzen, Saxony, May 21, 1817. He ranks among the first of metaphysicians, and has given impulse to the recent development of physiological psychology. He died in Berlin, July 1, 1881.

Loubet, Emile, President of the French Republic; born in Marsanne, Drome, France, Dec. 31, 1838. The first office he held was that of mayor of the city; in 1876 he was elected to a seat in the Chamber of Deputies; was reëlected in 1877, and again in 1881, but in 1885 he moved up to the Senate; was Minister of Public Works in the shortlived Tirard Cabinet, Dec. 12, 1887, to April 3, 1888; on the refusal of M. de Freycinet to reassume the presidency of the cabinet was intrusted by President Sadi-Carnot with the task of organizing the ministry with the larger part of its former constituents, himself assuming the portfolio of the Interior and the presidency of the Cabinet. M. Loubet was elected president of the senate in 1896, to which position he was reëlected in January, 1898. He succeeded Felix Faure as president, Feb. 18, 1899. He has proved a most acceptable president, and is highly esteemed at home and abroad.

Louis, the name of various European rulers.

Louis VIII., named the Lion, King of France; born in 1187. He was the son of Philip Augustus and his queen Isabella of Hainault. In 1226 he undertook a crusade against Raymond, Count of Toulouse, and the Albigenses; took Avignon after a three months' siege; overran Languedoc; and died in Auvergne in November of the same year. He had married in 1200, Blanche of Castile, by whom he had seven sons and one daughter.

Louis IX., or **Saint Louis,** King of France; born in Poissy, France, April 25, 1214. He succeeded his father, Louis VIII., in 1226. Being then only in his 12th year, he was placed under the guardianship of his mother, Blanche of Castile, who was made regent of the kingdom. He was de-

clared of age in 1236. Having made a vow, in the event of recovering from a dangerous disease, to march against the infidels in the Holy Land, he made preparations for doing so, and in 1248 embarked at Aigues-Mortes with an army of 50,000 men, accompanied by his queen, his brothers, and almost all the chivalry of France. The campaign was disastrous and resulted in his surrender and the ultimate payment of a vast ransom. In 1524 he returned home and in the interval Queen Blanche, who had ruled the kingdom in an exemplary manner, had died. Notwithstanding the disasters of his crusade, he undertook a new one, the object of which was the conquest of both Egypt and Palestine. Tunis, however, was the first point of attack; but while engaged at the siege of that place, a pestilence broke out among the French troops; and, after seeing one of his sons and a great part of his army perish, he was himself one of its victims, Aug. 24, 1270. Louis was canonized by Boniface VIII. in 1297, and his life was written by his friend, the Sire de Joinville.

Louis, XI., King of France; born in Bourges, France, July 3, 1425. He was the son of Charles VII. On the death of his father, in 1461, he dismissed the former ministers and filled their places with obscure men, without character or talents to recommend them. Insurrections broke out in various parts of his dominions; but they were soon quelled, and followed by many executions. In everything he did, his crooked policy and sinister views were evident. He became involved in a war with Charles the Bold, Duke of Burgundy, which lasted 1465–1472. A peace was concluded on favorable terms for Charles and his allies, but when Louis returned to Paris he used every artifice to evade its fulfillment. The great object of Louis was the establishment of the royal power, and the overthrow of the feudal aristocracy; but it is almost impossible to convey a just idea of his character, so contradictory were its qualities. He was at once confiding and suspicious, avaricious and lavish, audacious and timid, mild and cruel. He died in Plessis-les-Tours, near Tours, France, Aug. 30, 1483.

Louis XIV., called the Grand Monarque, King of France; born in St. Germain-en-Laye, France, Sept. 5, 1638. He was only five years old on the death of his father, Louis XIII, the regency being in the hands of the queen-mother, Anne of Austria, under whom Mazarin acted as prime minister. The nation was then involved in a war with Spain and the emperor, which was maintained with glory to the French arms by the Prince of Conde and the famous Turenne; but though Louis was successful abroad, his kingdom was distracted by internal divisions; the Parisians, irritated against Mazarin and the queen, took up arms; and the king, his mother, and the cardinal were obliged to fly. The Spaniards, profiting by these troubles, made several conquests in Champagne, Lorraine, and Italy. In 1651 the king assumed the government. Louis committed an act of impolitic cruelty, by the revocation, in 1685, of the Edict of Nantes, granted by Henry IV. in favor of the Protestants — a measure which drove from France a vast number of ingenious mechanics and others, who settled in America, England and Holland. The internal administration of his government was marked by the highest magnificence. His foreign wars were attended by varying fortune. The favorite motto of Louis, L'etat c'est moi ("I am the State") was quite as much the expression of a principle as of personal pride, and it meant the extension and consolidation of the state from its own center, in place of the distraction of government occasioned by the feudal system. He carried this principle into effect immediately after the death of Mazarin, by dispensing with any future prime minister; and the issue of it (besides its results in his political wars) was to humble the noblesse, and raise the talent of the middle classes to places of trust — as in the person of Colbert.

The domestic history of Louis, for the greater part of his life, is far more open to censure than any part of his public conduct. He died in Versailles, France, Sept. 1, 1715.

Louis XV., King of France; born in Versailles, France, Feb. 15, 1710. He was great grandson and successor of the preceding; and Louis XIV. dy-

ing when he was only five years of age, the kingdom was placed under the regency of Philip, Duke of Orleans. Louis was crowned in 1722, and declared of age the following year. The beginning of his reign was rendered disastrous by the Mississippi scheme of John Law which ruined thousands of people. In his foreign wars he was at first successful, but was ultimately defeated both by Prussia and England, and his reign witnessed the loss of the French possessions in North America. His personal conduct was unspeakably immoral, the French people groaned under the exactions made necessary by his lavish and licentious expenditures, and he himself is said to have foreseen the upheaval that followed in the next reign, without seeking to prevent it. He died in Versailles, France, May 10, 1774.

Louis XVI., King of France; born in Versailles, France, Aug. 23, 1754. He was son of Louis the dauphin and Maria Josephine, daughter of Frederic Augustus, King of Poland, and immediately created Duke of Berri. On the death of his father, in 1765, he became the heir to the throne; and in 1770 he married Marie Antoinette, an Austrian princess of great beauty and accomplishments. In 1774 he succeeded to the crown. France was in a deplorable state; her finances were nearly exhausted, her trade diminished, her navy destroyed, and the nation groaned under a weight of debt. In this state of things the people looked to their young king to recover their lost greatness, and he seconded their hopes by calling around him those persons whom he thought most likely to redeem the errors of the late administration. He chose Turgot and Malesherbes for his first ministers. His first act was very popular; he dispensed with the customary tax paid by the people at the beginning of every new reign. In 1774 the Parliament was recalled, and affairs began to assume a favorable aspect, when the war of the American Revolution broke out, and the agents of the United States, Franklin and Deane, arrived in Paris to solicit aid for the struggling colonies. Louis, though sympathizing with the Americans, was averse to embarking in a war on their account; but his pacific inclination was at length overcome by the urgency of his ministers and of the queen, and on Feb. 6, 1778, he concluded the treaty of alliance with the United States which in a few months resulted in the declaration of hostilities between France and Great Britain. The war cost France 1,400,000,000 livres; and besides the irreparable deficit it produced in the already disordered finances, it tended greatly to weaken the monarchy by diffusing republican and revolutionary ideas. Louis convened the states-general in May, 1789. The public mind was agitated. Mirabeau was the leader of the popular party. At his voice the people of Paris arose, and on July 14 of that year stormed the Bastille. Revolution had begun; and in October the armed mob marched to Versailles, forced the palace, murdered the guards, and searched in vain for the queen, who would have shared the same fate had she not escaped from her bed, which the miscreants pierced with their sabres. War was declared against France by the emperor and the King of Prussia; and the Duke of Brunswick marched into the country, but was forced to retreat. In the meantime, the people were wrought up to a pitch of savage ferocity, and assaulted the Tuileries, in storming which they murdered the brave and loyal Swiss guards. The king and royal family sought refuge in the National Assembly, which ordered them to be sent to the Temple. The Legislative Assembly gave way to the National Convention, which brought Louis to trial. On Jan. 17, 1793, he was adjudged to death for conspiring against the public good. On Jan. 21 he was led to the scaffold, where he showed the calm fortitude which had distinguished him through all the scenes of suffering and indignity to which he had been exposed.

Louis XVII. titular King of France; born in Versailles, France, March 27, 1785. He was second son of the preceding, was at first styled Duc de Normandie, and after the death of his elder brother, Louis-Joseph, in 1789, became dauphin of France. Imprisoned in the Temple with his relatives, he was, after his father's death, styled monarch by the Royalists and foreign powers. A cob-

bler, named Simon, was appointed his jailer, with the derisive title of tutor. He died June 8, 1795, it is suspected of poison; but it is more probable that his life was brought to a premature close by the harsh treatment to which he had been subjected in prison.

Louis XVIII. (Stanislas Xavier), surnamed Le Desire, King of France; born in Versailles, France, Nov. 17, 1755. He was the second son of the dauphin (the son of Louis XV.), and was originally known as the Count de Provence. At the accession of his brother, Louis XVI., in 1774, he received the title of Monsieur; and after the death of his nephew, in 1795, from which time he reckoned his reign, he took the name and title of Louis XVIII., King of France and Navarre. When Napoleon was overthrown he became king of France in fact. During the last few years of his reign Louis was much enfeebled by disease; and a paralysis of the lower limbs taking place, he died, Sept. 16, 1824.

Louisa, Queen of Prussia; born in Hanover, March 10, 1776. Her father, Duke Karl of Mecklenburg-Strelitz, was then commandant. She was married to the Crown-prince of Prussia, afterward Frederick-William III., Dec. 24, 1793, and was the mother of Frederick-William IV. and William III., afterward emperor. After her husband's accession to the throne she became exceedingly popular, her great beauty being united with dignity and grace of manners, and with much gentleness of character and active benevolence. She died in Strelitz, July 19, 1810.

Louisiade Archipelago, a group of islands belonging to British New Guinea, and forming an E. extension of that island. All are mountainous, rising to 3,500 in St. Aignan's and covered with vegetation. The inhabitants are numerous, but wild, and head-hunters; they seem to partake of both Malayan and Papuan characteristics.

Louisiana, a State in the South Central Division of the North American Union: bounded by Arkansas, Mississippi, the Gulf of Mexico, and Texas; admitted to the Union, April 30, 1812; number of parishes (counties), 59; capital, Baton Rouge; total area, 48,720 square miles; pop. (1890) 1,118,587; (1900) 1,386,625.

The surface of the State may properly be divided into two parts, the uplands, and the alluvial and coast and swamp regions. The Mississippi flows upon a ridge formed by its own deposits, from which the lands incline toward the low swamps beyond at an average fall of six feet per mile. These alluvial lands are never inundated save when breaks occur in the levees by which they are protected against the floods of the Mississippi and its tributaries. The uplands and contiguous hill lands have an area of more than 25,000 square miles, and they consist of prairie and woodlands. The State also has 1,000 square miles of land-locked bays, 1,700 square miles of inland lakes and a river surface of over 500 square miles.

The soil of Louisiana, generally, is exceedingly fertile and it varies from 10 to 40 feet in depth. The alluvial lands are world-renowned for their productiveness, and the larger part of the uplands surpass in fertility the same character of lands in most of the States.

The State possesses exceptionally great agricultural advantages, embracing varieties of products appertaining to the temperature and the semi-tropical zones. Cotton is grown throughout the State and in portions of the State sugar cane and rice are very extensively cultivated. The agricultural products include cotton, sugar and molasses, rice, corn, oats and hay, fruits and vegetables. The principal manufactures were sugar and molasses, lumber and timber products, cottonseed oil and cake, foundry and machine shop products, and clothing.

The mineral resources of the State are imperfectly known and only partially developed. Brown coal is found in the Northwest, iron in North Louisiana, and sulphur in South Louisiana. Salt is found on five islands of the Gulf coast, and is of the purest quality. Petroleum is found in large quantities on the Gulf coast, and recent discoveries promise developments equal to those in the neighboring oil fields of Texas.

In 1900 the school population was 483,600; the enrollment in public schools, 196,169. For higher education there are 22 public high schools, 30 private secondary schools and several colleges and universities.

The governor is elected for a term of four years and receives a salary of $5,000 per annum. Legislative sessions are held biennially and are limited in length to 60 days each. The Legislature has 39 members in the Senate, and 114 in the House. There are 7 representatives in Congress under the new apportionment.

Louisiana was colonized by the French in 1699; in 1763 ceded by France to Spain; in 1800 re-ceded to France; and in 1803 purchased from France by the United States for $15,000,000. On Feb. 11, 1811, an Act of Congress enabled the inhabitants to form a constitution and State government; and by a subsequent act the territory of Orleans was admitted to the Union, under the title of the State of Louisiana, on April 30, 1812.

Louisiana Purchase, the territory purchased from France in 1803.

Louisiana State University, an educational non-sectarian institution, in Baton Rouge, La.; founded in 1860.

Louis Philippe, King of the French; born in Paris, France, Oct. 6, 1773. He entered the army in 1791, and favoring the popular cause in the Revolution he took part in the battles of Valmy and Jemmapes; was present at the bombardment of Venloo and Maestricht, and distinguished himself at Neerwinden. Dumouriez had formed a scheme for placing him on the throne as a constitutional monarch, and being included in the order of arrest directed against Dumouriez, in 1793, he took refuge within the Austrian territory. For 21 years he remained exiled from France, living in various European countries and in America. He had become Duke of Orleans on the death of his father in 1793, and in 1809 he married the daughter of Ferdinand IV. of Naples. After the fall of Napoleon I. he returned to France and was reinstated in his rank and property. At the revolution of July, 1830, he was made "Lieutenant-General of the Kingdom," and in August became king of the French. He reigned for 18 years, when the revolution of 1848 drove him from the throne to England, where he remained till his death in Claremont, Aug. 26, 1850.

Louis Quatorze, the name given to a style of architecture and internal decoration which prevailed in France in the reign of Louis XIV.

Louis Quinze, the name sometimes given to the style of architecture and internal ornamentation prevailing in France during the reign of Louis XV. It is often known under the designation Rococo.

Louisville, a city and county-seat of Jefferson co., Ky.; on the Ohio river. Area, 20 square miles; pop. (1890) 161,129; (1900) 204,731.

The public buildings of Louisville are of a substantial character. They include the Court House, which is a limestone structure costing $1,000,000; the City Hall, built in the composite style, cost, $500,000, etc.

Louisville has upward of 2,000 manufacturing establishments. It is the center of the tobacco trade of the United States, and has very large interests in the manufacture of iron piping, pig-iron, woolen jeans, leather, and furniture. It is the great distributing market for all the fine whiskies manufactured in Kentucky and also has a number of large breweries. An important industry is the manufacture of cement from the limestone, dug from flats under the river below the dam, which are exposed when the water is low.

The public schools are among the best in the United States. The institutions of higher education include the Kentucky School of Medicine, a normal school, Southwestern Homeopathic Medical College, colleges of pharmacy and dentistry, National Medical College for the Colored Race, etc., and the Southern Baptist and Presbyterian Theological Seminaries.

The first settlement was made here in 1778 by 13 families under Col. George Roger Clarke. Two years later the place was incorporated by an act of the Virginia Legislature, and called Louisville in honor of Louis XVI. of France, whose soldiers were then aiding the Americans in the Revolutionary War. It was chartered as a city Feb. 13, 1828. In 1890 it was visited by a cyclone which destroyed $3,000,000 worth of property and killed 100 persons.

Lounsbury, Thomas Raynesford, an American scholar; born in Ovid, N. Y., Jan. 1, 1838. He was graduated at Yale in 1859, and led

the life of a student in Anglo-Saxon and early English, and a writer in critical and biographical works, till 1862, when he enlisted as a volunteer in the Union army, served as 1st lieutenant of the 126th New York Volunteers, and was mustered out at the close of the war; after 1871 occupied the chair of Professor of English in the Sheffield Scientific School of Yale University. Among his published works are Chaucer's "House of Fame" and his crowning work, which brought him great celebrity, "Studies in Chaucer, his Life and Writings."

Louse, the genus Pediculus. The sexes of lice are distinct. The female is oviparous, producing eggs, popularly called nits. The young are hatched in five or six days, and in 18 these are capable of reproduction. Three species are parasitic in certain circumstances on man. The body or clothes louse; the head or common louse; and the pubic or crab louse.

Louvois, Francois Michel le Tellier, Marquis de, the war-minister of Louis XIV.; born in Paris, France, Jan. 18, 1641. Louvois took a leading part in the persecution of the Protestants through the dragonnades after the Revocation of the Edict of Nantes. He died suddenly July 16, 1691.

Louvre, the name of a celebrated public building of Paris, situated in the N. part of the city, near the right bank of the Seine. In the time of Dagobert, a hunting-seat existed here, the woods extending over all the space which is now occupied by the N. part of the city down to the banks of the Seine. It was converted into a stronghold by Philip Augustus in 1214, and used as a state prison. Charles V. (1364–1380) added some embellishments to it, and brought thither his library and his treasury; and Philip I., in 1528 erected that part of the palace which is now known as the gallery of Apollo. Additions and improvements were later made by Henry IV., Louis XIII., Louis XIV. and Napoleon. A resolution having been passed by the provisional government in favor of the completion of the whole building, the foundation-stone of the new Louvre was laid July 25, 1852, and the work completed in 1857, at a cost of nearly 6,000,000 francs.

The Louvre now consists of two parts — the old and new Louvre. The former is nearly a square, 576 feet long and 538 wide, and inclosing a quadrangle of about 400 feet square; its east facade looking toward the church of St. Germain l'Auxerrois, is a colonnade of 28 Corinthian columns, and one of the finest works of architecture of any age or country. The new Louvre consists of two vast lateral piles of buildings, projecting at

LOUVRE—WEST PAVILION.

right angles from the two parallel galleries, which formerly joined the old Louvre with the Tuileries, and formed the E. boundary of the Place du Carrousel. Turning into the Place Napoleon III., they present on each side a frontage of 580 feet, intersected by three sumptuous pavilions intended to accommodate the minister of state, the minister of the interior, and the library of the Louvre. Some of the galleries on the upper stories are set apart for permanent and annual exhibitions of works of art. In the

central part of the building is the council-chamber, to be used as an assembly-room for the public bodies of the empire on the opening of the legislature and on other solemn occasions. The Tuileries, before its burning by the communists and subsequent demolition, and the Louvre formed together a single palace of a magnitude and splendor which can be paralleled nowhere else. The total space covered or inclosed by the Louvre is nearly 60 acres.

Love, Alfred Henry, an American philanthropist; born in Philadelphia, Pa., Sept. 7, 1830. After 1867 he was editor of the "Voice of Peace and the Peacemaker" and "Court of Arbitration." In 1866 he aided in organizing the Universal Peace Union. He contributed to periodicals many articles on reformatory subjects and made many addresses. His efforts on behalf of peace at the time of the Spanish-American conflict aroused attention not altogether favorable.

Love, Court of, in mediæval France, a tribunal composed of ladies illustrious for their birth and talents, whose jurisdiction, recognized only by courtesy and opinion, extended over all questions of gallantry. Such courts existed from the 12th to the 14th century, while the romantic notions of love which characterized the age of chivalry were predominant.

Love Birds, habitat, the Melanesian and Australian provinces. Their popular name has reference to the affection the male displays toward the female, whether caged or wild.

Love Feasts, religious meetings held quarterly by the Wesleyan and other sects, owing their origin directly or indirectly to the labors of Wesley. None but members of the Church are admitted, except by the permission of the minister.

Lovejoy, Elijah Parish, an American abolitionist; born in Albion, Me., Nov. 9, 1802. He took editorial charge of the "Observer," a religious weekly published at St. Louis, Mo., and, first a believer in colonization, he gradually became strongly anti-slavery, though always opposing immediate and unconditional abolition. His articles created great excitement, and when his office was finally wrecked by the mob in 1836 he decided to remove his paper to Alton, Ill. Here three presses were destroyed by mobs. The fourth press was placed in a stone warehouse which Lovejoy and some of his friends defended. The house was surrounded by a mob and the roof set on fire. In attempting to sally Lovejoy was shot and killed, Nov. 7, 1837. A monument was erected to his memory at Alton in 1897.

Lovelace, Richard, an English Cavalier poet; born in Woolwich, England, in 1618. His name survives from two of the most faultless lyrics in the English language—"To Althea from Prison" and "To Lucasta on going to the Wars." He died in London, England, in 1658.

Lover, Samuel, an Irish novelist; born in Dublin, Ireland, Feb. 24, 1797. In 1847 he visited the United States, returning to England in the following year. In 1858 appeared his "Lyrics of Ireland." He died in St. Heliers, July 6, 1868.

Low, Seth, an American educator; born in Brooklyn, N. Y., Jan. 18, 1850; was graduated at Columbia University in 1870; made a member of his father's mercantile firm in 1875; mayor of Brooklyn in 1881–1885; and was elected president of Columbia University in 1890. In 1895 he erected for that institution a grand university library at a cost of $1,175,000. In honor of President Low's generosity and in accord with his desire, the trustees of Columbia founded 12 scholarships in the university for Brooklyn boys and the same number in Barnard College for Brooklyn girls, and also agreed to found eight annual scholarships. In 1899 he was appointed by President McKinley a member of the delegation to represent the United States at the International Peace Conference at The Hague. Mr. Low was an unsuccessful candidate for mayor of Greater New York in 1897; and was again nominated for the office on a fusion ticket in 1901. He was elected after a hard-fought campaign, and was again candidate on the fusion ticket in the autumn of 1903 and defeated.

Lowe, John, an American naval officer; born in Liverpool, England, Dec. 11, 1838; entered the navy in 1861, served through the Civil War,

being wounded in the first battle of Bull Run; and was a member of the Greely Relief Expedition in 1884. He was the first naval officer of any nation to serve in a submarine torpedo boat, which he did in 1898, and made the first report to the Secretary of the Navy on submarine service. He was promoted rear-admiral Dec. 11, 1900, and retired the same day.

Lowe, Sir Hudson, a British military officer; the custodian of Napoleon in St. Helena; born in Galway, Ireland, July 28, 1769. On Aug. 23, 1815, he was appointed governor of St. Helena. Napoleon had landed there on Oct. 17 of the previous year. The harshness of Lowe's watch brought down on him much obloquy, and exposed him to bitter attacks from Napoleon's friends and admirers. In 1825 he was appointed commander of the forces in Ceylon. He died in London, England, July 10, 1844.

Lowe, Thaddeus S. C., an American scientist; born in Jefferson, N. H., Aug. 20, 1832. During the Civil War he was chief of the aeronautic corps. He invented a system of signaling, and valuable instruments for atmospheric investigation, etc.; constructed and operated the largest aerostat ever built; made the first artificial ice in the United States (1865); and established the Lowe Observatory in the Sierra Madre Mountains, Cal.

Lowell, Edward Jackson, an American historian; born in Boston, Mass., Oct. 18, 1845. He was the author of "The Hessians and Other German Auxiliaries of Great Britain in the Revolutionary War." This work is deemed exhaustive in its scope. He died in 1894.

Lowell, Francis Cabot, an American merchant; born in Newburyport, Mass., April 7, 1775. He acquired celebrity as a pioneer cotton manufacturer, and also as the founder of the town which bears his name, and which has since become the chief seat of textile manufactures in this country. He died in Boston, Mass., Sept. 2, 1817.

Lowell, James Russell, an American author; born in Cambridge, Mass., Feb. 22, 1819; was graduated at Harvard College in 1838; became an abolitionist and in his famous "Biglow Papers" and other writings did much to make the movement popular. In 1855 he was appointed successor to Longfellow as Professor of Belles-Lettres in Harvard University, and after two years' study abroad he entered upon the duties of his professorate. In 1863 he became one of the editors of the "North American Review," a position which he maintained till 1872. At the outbreak of the Civil War the poet again attacked the slavery party in a second series of "Biglow Papers," which appeared from time to time in the "Atlantic Monthly," and were published in a volume in 1867. In 1869 he published "The Cathedral," a poem of some length. This was followed by two volumes of essays, "Among My Books" (1870) and "My Study Windows" (1871). In 1872 he visited Europe, and on his return he wrote the "Centennial Ode." He was United States minister to Spain in 1877–1880 and to Great Britain in 1880–1885. During his residence in London he was elected Lord Rector of St. Andrew's University in Edinburgh. He died in Cambridge, Mass., Aug. 12, 1891.

Lowell, John, an American statesman; born in Newburyport, Mass., June 17, 1743. He was graduated at Harvard College in 1760, and became a member of the convention which framed the constitution of Massachusetts, in 1780. In 1781 he entered Congress, and in 1801 was appointed Chief Justice of Massachusetts. He died in Roxbury, Mass., May 6, 1802.

Lowell, John, an American merchant; son of F. C. Lowell; born in Boston, Mass., May 11, 1799. He founded the Lowell institute in that city, bequeathing $250,000 for its maintenance. He died in Bombay, India, March 4, 1836.

Lowell, Josephine Shaw, an American philanthropist; born in West Roxbury, Mass., Dec. 16, 1843. In 1863 she married Charles Russell Lowell. She was a commissioner of New York State Board of Charities, 1877–1889, and frequently lectured on questions of philanthropy. He also wrote on philanthropic topics.

Lowell, Maria (White), an American writer; wife of James Russell Lowell; born in Watertown, Mass., July 8, 1821. She died in Cambridge, Mass., Oct. 27, 1853.

Lowell, Percival, an American author; born in Boston, Mass., March 13, 1855. He was graduated from Harvard in 1876, and spent some time in Japan and Korea. He established the Lowell Observatory at Flagstaff, Ariz., in 1894.

Lowell, Robert Traill Spence, an American educator; brother of James Russell Lowell; born in Boston, Mass., Oct. 8, 1816. He was graduated at Harvard in 1833. He became in 1873 Professor of Latin in Union College, Schenectady, N. Y. He died in Schenectady, N. Y., Sept. 18, 1891.

Lower California, a peninsula on the Pacific coast of North America, extending about 750 miles S. of California; area 58,328 square miles; pop. 42,245. It belongs to Mexico and, with the exception of a few spots, is a sterile and unproductive region. Chief towns are La Paz, the capital, Loretto, and Rosario.

Lowry, Robert, an American composer; born in Philadelphia, Pa., March 12, 1826. His music and hymns met with popular approval. He edited: "Chapel Melodies" and other collections of sacred music. He died Nov. 25, 1899.

Low Sunday, in the Roman Catholic Church, the first Sunday after Easter.

Loyal Legion, Military Order of the, the first society formed by officers honorably discharged from the service of the United States in the Civil War. On the day after the assassination of President Lincoln, Col. S. B. Wylie Mitchell, Capt. Peter D. Keyser, M. D., and Lieut.-Col. T. Ellwood Zell met in Philadelphia to arrange for a meeting of ex-officers of the army and navy to adopt resolutions relative to the death of President Lincoln. It was decided to effect a permanent organization, and an adjourned meeting was held for this purpose in Philadelphia, May 3, 1865. Total membership (1900) 9,043.

Loyola, Ignatius, original name Inigo Lopez de Recalde, a Spanish soldier and prelate, the founder of the order of the Jesuits; born in the castle of Loyola, Guipuscoa, Spain, in 1491. When still a young man he entered the army, and in 1521 he was severely wounded, and a long and tedious confinement was the result. The only books he found to relieve its tedium were books of devotion and the lives of saints. This course of reading induced a fit of mystical devotion in which he renounced the world, made a formal visit to the shrine of the Virgin at Montserrat, and vowed himself her knight (1522). After his dedication he made a pilgrimage to Rome and Jerusalem, and from 1524 to 1527 attended the schools and universities of Barcelona,

BADGE OF THE LOYAL LEGION.

Alcala, and Salamanca. In 1528 he went to Paris, where he went through a seven years' course of general and theological training. Here in 1534 he formed the first nucleus of the society which afterward became so famous. Rome ultimately became their headquarters, where Loyola continued to

reside and govern the society he had constituted till his death, July 31, 1556. He was beatified in 1607 by Paul V., and canonized in 1622 by Gregory XV.

Lozier, Clemence Sophia, an American physician; born in Plainfield, N. J., Dec. 11, 1813. In 1829 she was married to A. W. Lozier, and in 1849 began the study of medicine, taking her degree in 1853 from the Syracuse Medical College. Establishing herself in New York as a homeopathic physician, she had remarkable success, showing rare surgical skill. In 1863 she started a movement resulting in the founding of the first medical college for women in the State. She was a prominent woman suffragist and active in reform and philanthropic movements. She died in New York city, April 26, 1888.

Lubbock, Sir John, an English archæologist, naturalist and politician; born in London, England, April 30, 1834. He joined his father's banking business in 1848; became a partner in 1856; entered Parliament in 1870 as member for Maidstone; after 1880 represented London University. He is a recognized authority on financial and educational questions, and his name is associated with several important public measures. He is also distinguished as a man of science, being author of "Prehistoric Times"; "Origin and Metamorphoses of Insects"; "The Origin of Civilization and the Primitive Condition of Man."

Lubricant, a substance used to diminish friction of the working parts of machinery.

Lucan, George Charles Bingham, Earl of, a British general; born in London, England, April 16, 1800. As commander of a division of cavalry in the Crimea he fought at the Alma, Balaklava, and Inkermann. Appointed lieutenant-general in 1858 and G. C. B. in 1869 he became field-marshal in 1887. Died Nov. 10, 1888.

Lucan (Marcus Annæus Lucanus), a Latin poet; nephew of Seneca; born in Cordova, Spain, in A. D. 39. His uncle introduced him to the court of Nero, and for a time he was a favorite; but Nero envied his poetic talents and banished him from court. He died in Rome in A. D. 65.

Luce, Stephen Bleecker, an American naval officer; born in Albany, N. Y., March 25, 1827; served on the Pacific Coast in the Mexican War; was promoted rear-admiral in 1885; was retired the same year. He was naval editor of the "Standard Dictionary" and author of "Seamanship" (used as a text-book at the United States Naval Academy, 1898).

Lucerne, Lake of, one of the most beautiful sheets of water in Europe; area, 44 square miles.

Luchaire, Achille, a French historian; born in Paris, France, Oct. 24, 1846. He held professorships at Pau, Bordeaux, and Paris, where he occupied the chair of mediæval history in the Faculty of Letters. He is an authority on the institutions of France in the Feudal Period. In 1891 he was decorated with the Legion of Honor.

Lucianus, a Greek author, distinguished for his ingenuity and wit; born in Samosata, Syria, about 120 A. D. He died about 200.

Lucifer, the morning star. A name given to the planet Venus when she appears in the morning before sunrise. When Venus follows the sun, or appears in the evening, she is called Hesperus, the evening star. These names no longer occur except in the old poets. Also a name commonly, though unappropriately, given to the prince of darkness; Satan. Also a term originally applied to matches tipped with a mixture of chlorate of potash and sulphuret of antimony, which were inflamed by friction on a piece of emery paper.

Lucilius, a Roman poet, the creator of that form of poetic satire which was wielded so brilliantly by his successors, Horace, Persius, and Juvenal; born in Suessa Aurunca, Campania, about 180 B. C. He died in Naples, 103 B. C.

Lucius III., Pope (1181–1185). He was the first Pope elected solely by the cardinals, in consequence of which his reign was very turbulent. He died an exile in Verona in 1185.

Lucknow, a city of Hindustan, capital of the former kingdom of Oude, on the Goomtee, a tributary of the Ganges, 150 miles N. W. of Benares, and 265 S. E. of Delhi. Lucknow is remarkable for the defense made by

300 British soldiers while besieged in the residency of the city for four months in 1857 during the Sepoy rebellion. Pop. (1901) 263,951.

Lucretius, Titus Carus, one of the greatest Roman poets; born in Rome, probably about 96 B. C. He died Oct. 15, 55 B. C.

Lucullus, Lucius Licinius, a Roman consul and commander, celebrated for his military talents and luxurious style of living; born about 115 B. C. He was in great favor with the dictator Sulla, who made him guardian to his son and editor of his "Commentaries." In 74 B. C. he obtained the consulship. In 71 B. C. he finally broke up the hostile army, and Mithridates himself sought protection in Armenia, where Tigranes refusing to surrender him to the Romans. Lucullus attacked that monarch, and completely subdued him. On an occasion of a mutiny of his soldiers he was deprived of the chief command and recalled. From this time Lucullus remained a private individual. He died about 57 B. C.

Lucy, Henry W., an English journalist and author; born near Liverpool, England, Dec. 5, 1845. After some provincial experience as a journalist he went to London in 1868 and joined the "Daily News."

Luders, Charles Henry, an American poet; born in Philadelphia, Pa., in 1858. He died there, July 12, 1891.

Ludlow, a market-town and municipal borough of Shropshire, England, at the Crove's influx to the Teme, 28 miles S. of Shrewsbury. It is a very old and interesting place, with noble monuments of antiquity; the massive Norman keep, 110 feet high, of the castle, where Prince Arthur wedded Catharine of Aragon, and died less than five months afterward; where, in the banqueting-hall, Milton produced his "Comus," and where Butler wrote "Hudibras"; it was dismantled in 1689.

Ludlow, Edmund, an English republican; born in Maiden Bradley, Wiltshire, England, in 1617. He died in Switzerland in 1692. Ludlow's "Memoirs" is one of the best contemporary sources of knowledge we possess.

Ludlow, Fitzhugh, an American journalist; born in Poughkeepsie, N. Y., Sept. 11, 1836. He received his education at Union College. He was editor of "Vanity Fair" from 1858 to 1860, and also wrote for the "World" and "Evening Post," besides contributing frequently to "Harper's Monthly." He died in Geneva, Switzerland, Sept. 12, 1870.

Ludlow, James Meeker, an American author; born in Elizabeth, N. J., March 15, 1841. He is a minister in the Presbyterian Church, East Orange, N. J.

Ludlow Street Jail. A well-known prison in New York city, for the confinement of prisoners held under civil writs issued from the State Courts, and of prisoners held on criminal charges for examination or trial in the United States Courts; also for persons held under extradition proceedings at the instance of foreign governments.

Ludlow, William, an American military officer; born in Islip, L. I., Nov. 27, 1843; was graduated at the United States Naval Academy and appointed a 1st lieutenant in the Engineer Corps in 1864; served through the remainder of the war; was president of the United States Nicaragua Canal Commission in 1895; commissioned Brigadier-General of volunteers and was made chief engineer of the army destined for Cuba in May, 1898. During the Santiago campaign he commanded the 1st Brigade, 2d Division, of the American army, and participated in the battles of El Caney and San Juan Hill. He was promoted Major-General of volunteers, Sept. 7, 1898; was military governor of Havana from Dec. 12, 1898, to May 1, 1900; promoted Brigadier-General, U. S. A., Jan. 21, 1900; and appointed president of the War College Board, May 1, 1900. He died Aug. 30, 1901.

Ludwig, Karl, a German physiologist; born in Witzenhausen, Hesse, Dec. 29, 1816. Some of his works were of fundamental importance for medical science and natural history. He died in Leipsic, April 24, 1895.

Ludwig, Salvator, Archduke, an Austrian explorer; born in Florence, Aug. 4, 1847. His principal writings dealing with travel, are all

illustrated by himself and most of them published anonymously.

Lugano, Lake of, also called Ceresio, a sheet of water at the S. foot of the Alps, 889 feet above sea-level; length, 14½ miles; average breadth, 1¼ miles; area, 18½ square miles.

Lugger, a small vessel, carrying two or three masts with a lugsail on each, and a running bowsprit, on which are set two or three jibs.

Lugsail, a four-cornered sail bent to a yard, which is slung at a point two-thirds of its length from the peak.

Luini, or **Luvino, Bernardino,** the best painter of the Milan school; is supposed to have been born in the village of Luino near Lake Maggiore, about 1470; but it is only known for certain that his works were mostly executed between 1520 and 1530.

Luitprand, a Lombard historian; born in Pavia early in the 10th century. He wrote the history of the affairs of Europe in his time, and other works valuable for their historical information. He died about 970.

Luke, a New Testament evangelist. The Gospel according to St. Luke, in the New Testament canon, the third Gospel. The writer had his information from those who "from the beginning were eyewitnesses and ministers of the word" implying that he was not himself an eyewitness of the events that he records. When speaking of diseases, there is a technical accuracy, greater than that exhibited by the other evangelists. Universal tradition considers that the Gospel was penned under divine inspiration by St. Luke, "the beloved physician."

The incidents recorded are not in chronological order. There is a marked superiority to Jewish caste-prejudice or to ceremonial bondage. It is the Gospel that tells of the Prodigal Son, the Good Samaritan, the Pharisee and the Publican. The third Gospel is exactly such a work as, under Divine inspiration, might be supposed to emanate from the companion of Paul.

Lukens, Henry Clay, pseudonym Erratic Enrique, an American journalist and author; born in Philadelphia, Pa., Aug. 18, 1838. In 1884 he was associate editor of the New York "Daily News," and subsequently editor of the "Journalist," New York.

Lumbago, rheumatism of the muscles of the loins, with sudden and severe pain, sometimes extending to the ligaments underneath the muscles.

Lumber Industry. During the period 1890–1900 the lumber industry in the United States showed a general increase of 46.1 per cent. in the number of concerns and of 29.4 per cent. in the value of products. The statistics of the census years 1900 were as follows: number of establishments, 33,035; capital, $611,611,524; officials, clerks, and wage earners, 295,790; salaries and wages, $115,901,199; cost of materials used, $317,923,548; and value of products, $566,832,984. This statement excludes the combined paper and wood pulp industry, in which the proportion of wood is not separately given. In the fiscal year ending June 30, 1901, the exports of timber and unmanufactured wood aggregated in value $41,345,942; of manufactured wood, $11,099,643; total $52,445,585. In the same period the imports of unmanufactured and manufactured wood had a value of $19,754,205.

Nearly all of the formerly waste products of lumber and timber are now turned to some utility and some of the new products thus formed are of considerable value. Of this latter class may be mentioned sawdust. French cabinet makers have found a way of preparing this material which gives it a value far above that of solid timber by a process combining the use of the hydraulic press and the application of intense heat. By this process the particles of sawdust are formed into a solid mass capable of being molded into any shape and of receiving a brilliant polish and possessing a durability and a beauty of appearance not found in ebony, rosewood or mahogany. This product is known as "bois durci."

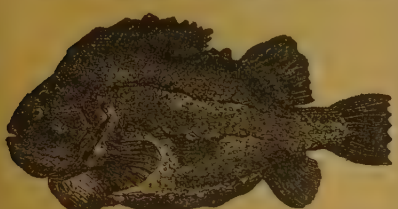
The utilization of wood pulp in the manufacture of paper is not new, but its increased use is very marked.

Near Breslau, in Silesia, there have been erected factories that convert the pine leaves into what is called "forest wool" for wadding and for manufacture into hygienic fabrics for medical use and for articles of dress, such as inner vests, drawers, shirts. In the preparation of the textile material an ethereal oil is produced which

is employed as a curative agent and oftentimes as a useful solvent. Some attempt has been made in Oregon to make use of these leaflets by reducing them to a fibrous condition suitable for mixing with cotton to be spun into yarn for weaving.

Lummis, Charles Fletcher, an American author; born in Lynn, Mass., March 1, 1859. He was a resident of Los Angeles, Cal. He is devoted to the archæology and history of the aboriginal tribes of the Southwest.

Lump Fish, or **Sucker,** named from the clumsiness of its form. The back is arched and sharp, the belly flat, the body covered with numerous bony tubercles, the ventral fins modified into a sucker, by means of which it adheres with great force to any substance to which it applies itself. It frequents the N. seas.



LUMP FISH.

Luna, Antonio, a Filipino insurgent; born in Manila, Philippine Islands, about 1854; was educated in Europe; returned to Manila early in 1898; became editor of "La Independencia"; and was the first Minister of War in the so-called government of Aguinaldo. Later he was placed in command of the Filipino insurgents with the rank of general. He was killed presumably by the guards of Aguinaldo, who, fearing that Luna might attempt to assassinate him, gave orders to his bodyguard to kill any one regardless of his rank who should try to enter his headquarters. Luna endeavored to pass this guard and was shot dead, June 8, 1899.

Luna, the Latin name for the moon, among the Greeks Selene. Her worship is said to have been introduced among the Romans in the time of Romulus.

Lunar Tables, in astronomy, ponderous volumes of solid figures which are the numerical development and tabulation of some analytical theory of the moon's motions and perturbations. From these are constructed the annual ephemerides of the moon's hourly position, one of the principal features of a nautical almanac.

Lunar Theory, in astronomy, the deduction of the moon's motion from the law of gravitation.

Lundy, Benjamin, an American abolitionist; born in Hardwick, N. J., Jan. 4, 1789. In 1821 he founded the monthly "Genius of Universal Emancipation," which was published under difficulties for some years. He started in Philadelphia a weekly anti-slavery journal, "The National Enquirer" (1836); and in 1839 was about to revive the "Genius of Universal Emancipation" when he died in Lowell, Ill., Aug. 22, 1839.

Lundy's Lane, a locality in the province of Ontario, near the Falls of Niagara. Here, July 25, 1814, an obstinate and undecisive engagement was fought between an American force, numbering 3,000 men, under General Brown, and a body of about 4,000 British troops commanded by General Drummond. The loss of the Americans was 743 men; that of the British 878 men.

Lungs, the sole breathing organs of reptiles, birds, mammals, and in part of amphibians (frogs, newts, etc.), the latter forms breathing in early life by branchiæ or gills and afterward partly or entirely by lungs.

The lungs are popularly termed "lights"; this from the reason that they are the lightest organs in the body and float when placed in water, except in diseased conditions, as after chronic inflammations, where the lung tissue becomes filled up with the product thrown out and exhibits a hepatized or solid and liver-like structure, when it at once sinks. In the infant the lungs are of a light red color, but in adult life the lung tissue becomes more or less infiltrated with black matter, probably of carbonaceous nature, and which has been inhaled in the process of breathing.

Lungwort, a lichen growing on the trunks of trees in moist, sub-alpine countries. It is sometimes prescribed in diseases of the lungs, like Iceland moss. In Siberia it is used as a substitute for hops. Called also lungs of the oak.

Lunt, George, an American author; born in Newburyport, Mass., Dec. 31, 1803. During the Civil War he was associate editor, with George S. Hillard, of the Boston "Courier." He was a forceful, graceful writer. Died in Boston, Mass., May 17, 1885.

Lunt, William Parsons, an American clergyman; born in Newburyport, Mass., April 21, 1805. His writings are singularly felicitous in purity of taste and have been much admired. He died in Akabah, Arabia Petræa, March 20, 1857.

Lupercalia, a festival among the ancient Romans, held on Feb. 15, in honor of Lupercus, the god of fertility.

Lupine, a very extensive genus of hardy annual, perennial, and half-shrubby plants, some of which are cultivated in gardens for the sake of their gaily-colored flowers.

Lupus, a spreading tuberculous inflammation of the skin, generally of the face, tending to great destructive ulceration.

Luray Cavern, a cave, not large, but remarkable for the vast number and extraordinary shapes of its stalactites, close to Luray village, Va., 90 miles N. W. of Richmond.

Luschka, Hubert von, a German anatomist; born in Constance, July 27, 1820. He became Professor of Anatomy in the University of Tubingen in 1855. His principal work is "Human Anatomy as related to Practical Medicine." He died in Tubingen, March 1, 1875.

Lushais, a warlike race occupying the little-known Lushai Hills in Cachar (Assam), Chittagong (Bengal), and the adjoining parts of Burma. Their country is now British.

Lute, an instrument of the guitar family, formerly very popular in Europe. It was used for accompaniments and the performance of solos, duets, etc.

Luther, Martin, a great religious reformer; born in Eisleben, Lower Saxony, Nov. 10, 1483. He was educated in the deepest respect for religion. At the age of 14 he was sent to school at Magdeburg, whence he removed in 1498 to Eisenach. In 1501 he entered the University of Erfurt; in 1503 received the degree of Master and delivered lectures on the physics and ethics of Aristotle. About this time he discovered in the library of the university a Latin Bible and found to his no small delight that it contained more than the excerpts in common use. He was destined by his father to the law, but his more intimate acquaintance with the Bible, of which the clergymen of that time knew only the Gospels and Epistles, induced him to turn his attention to the study of divinity. Contrary to the wishes of his father he entered the monastery of the Augustines at Erfurt in 1505.

In 1507 he was consecrated priest, and in 1508 he was made Professor of Philosophy in the new University of Wittenberg. In 1510 he visited the court of Pope Leo X. at Rome on business connected with the order. This journey revealed to him the irreligion and corruption of the clergy at Rome and destroyed his reverence for the sanctity of the Pope. After his return he became a preacher at Wittenberg, and in 1512 he was made a Doctor in Theology. As such his oath bound him, as he thought, to the fearless defense of the Holy Scriptures. His profound learning, together with the fame of his eloquence, soon made Luther known to the principal scholars and esteemed as a powerful advocate of the new light which was breaking upon the world. Great, therefore, was the attention excited by his 95 propositions given to the world Oct. 31, 1517, and intended to put an end to the sale of indulgences by the Dominican Tetzel. His propositions were condemned as heretical as soon as they appeared.

In 1520 Luther and his friends were excommunicated. His writings were burned in Rome, Cologne, and Louvain. Indignant at this open act of hostility after his modest letter in which he had showed himself desirous of reconciliation, declared his submission to the Pope, and advised a reform in the Church, Luther burned the bull of excommunication and the decretals

of the papal canon at Wittenberg Dec. 10, 1520. By this act he dissolved all connection with the Pope and the Roman Church. A few months later he was summoned by the newly elected German Emperor, Charles V., before the Diet of Worms and resolved to go in spite of all the remonstrances of his friends. Before the emperor, the Archduke Ferdinand, 6 electors, 24 dukes, 7 margraves, 30 bishops and prelates, and many princes, counts, lords, and ambassadors, Luther appeared, April 17, in the Imperial Diet, acknowledged all his writings, and on the following day made his defense before the assembly. He concluded his speech of two hours in length with these words: "Let me then be refuted and convinced by the testimony of the Scriptures, or by the clearest arguments, otherwise I cannot and will not recant, for it is neither safe nor expedient to act against conscience. Here I take my stand; I can do no otherwise, so help me God! Amen." He left Worms in fact a conqueror; but it was so manifest that his enemies were determined on his destruction that Frederick the Wise conveyed him privately to the Wartburg to save his life. Neither the proscription of the emperor nor the excommunication of the Pope could disturb him in his retirement of which he took advantage to translate the New Testament into German. But this retirement continued only 10 months. When informed of the disturbances excited by Carlstadt on the subject of images he could no longer endure restraint. He hastened to Wittenberg, and the sermons which he delivered for eight successive days after his return (in March, 1522) to quell the violence of the enraged insurgents in Wittenberg are patterns of moderation and wisdom and popular eloquence.

Amidst these disputes and attacks his plans for a total reformation in the Church, which was called for by the voice of the nation, were matured. In 1523 at Wittenberg he began to purify the liturgy from its empty forms and by laying aside his cowl; in 1524 he gave the signal for the abolition of the monasteries and the better application of the goods of the Church. In 1525 he married Catherine von Bora, a nun who had left her convent. Luther prepared from 1526 to 1529 a new Church service corresponding to the doctrines of the Gospel, under the patronage of the elector and with the aid of Melanchthon and other members of the Saxon Church. His larger and smaller catechisms to be used in schools were also of great service. But everyone must look with pain on the severity and intolerance which he manifested toward the Swiss reformers because their views differed from his own in regard to the Lord's Supper. He was thus the chief cause of the separation which took place between the Calvinists and the Lutherans. But without his inflexible firmness in matters of faith he would have been unequal to a work against which artifice and power had arrayed all their forces.

The rapidity with which the Reformation advanced after the Confession of Augsburg in 1530 rendered the papal bulls and the imperial edicts against Luther inefficient. But he was obliged to be continually on his guard against the cunning of those who strove to make him give up some parts of his creed, and it required a firmness bordering on sternness and obstinacy to maintain the victory which he had won.

No one can behold without astonishment his unwearied activity and zeal. The work of translating the Bible, which might well occupy a whole life, he completed with some assistance from Melanchthon and other friends from 1521 to 1534, and thus rendered his name immortal. This translation bears the same relation in Germany as the Authorized Version does elsewhere to the religious life and literature of the people. He equalled the most prolific authors in the number of his treatises on the most important doctrines of his creed. After the year 1512 he preached several times every week and at certain periods every day; he officiated at the confessional and the altar; he carried on an extensive correspondence in Latin and German on various subjects with men of rank and of distinguished literary attainments and with his private friends, and notwithstanding all this press of occupation he allowed himself some hours every day for meditation and prayer and was always accessible to visitors. He gave advice and assistance wher-

ever it was needed, and interested himself for every indigent person who applied to him. In company he was always lively and abounded in sallies of wit and good humor, preserved in his "Tischreden" ("Table-talk"); and he was temperate in his enjoyments. Luther was no stranger to the elegant arts. His excellent hymns ("Ein' feste Burg," "Aus tiefer Noth," etc.) are well known. His fondness for music, too, was such that as often as circumstances permitted he would relax his mind with musical composition, singing, and playing on the flute and lute.

On the 18th of February, 1546, Luther died in Eisleben, and he was buried in the castle church of Wittenberg. He left a wife whom he tenderly loved and four children (two others having previously died) in straitened circumstances. His wife died in 1552. Against his will his adherents styled themselves Lutherans; against his will they engaged in a war which broke out immediately after his death and desolated Germany. As long as he lived Luther was for peace and he succeeded in maintaining it; he regarded it as impious to seek to establish the cause of God by force; and in fact during 30 years of his life the principles of the Reformation gained a firmer footing and were more widely propagated by his unshaken faith and unwearied endeavors than by all the wars, treaties, and councils.

Lutherans, a designation originally applied by their adversaries to the Reformers of the 16th century, and afterward appropriated among Protestants themselves to those who took part with Martin Luther against the Swiss Reformers, particularly in the controversies regarding the Lord's Supper. It is so employed to this day as the designation of one of the two great sections into which the Protestant Church was divided, the other being known as the Reformed Church.

Lutheranism is the prevailing form of Protestantism in Germany; it is the national religion of Denmark, Sweden, and Norway; and there are Lutheran Churches in the Baltic provinces of Russia, in Holland, France, Poland, and the United States. In all there are about 30,000,000 Lutherans. Among the Lutheran symbolical books the "Augsburg Confession," Luther's "Shorter Catechism," and the "Formula Concordiæ" ("Formula of Harmony") hold the principal place. The chief difference between the Lutherans and the Reformed is as to the real presence of Christ in the sacrament of the Supper; the Lutherans holding the doctrine of consubstantiation — Christ's body present "in, with, and under the unchanged bread and wine"— though rejecting transubstantiation; while some of their more extreme theologians have asserted not only the presence of the human nature of Christ in the Lord's Supper, as Luther did, but the absolute omnipresence or ubiquity of His human nature. Other points of difference relate to the allowance in Christian worship of things indifferent; and many of those things at first retained as merely tolerable by Luther and his fellow-reformers have become favorite characteristics of some of the Lutheran Churches — as crucifixes and pictures in places of worship, etc.

In its constitution the Lutheran Church is generally unepiscopal without being properly presbyterian. It is consistorial, with the civil authorities so far in place of bishops. In Denmark, Sweden, and Norway there are bishops, and in Sweden an archbishop (of Upsala), but their powers are very limited.

In 1900 there were five bodies of Lutherans in the United States, with a total of 6,710 ministers, 11,123 churches, and 1,665,878 members.

Lutzen, a small town in the Prussian province of Saxony, famous for two great battles fought in its vicinity. The first, a brilliant victory of the Swedes in the Thirty Years' War, took place Nov. 6, 1632. The battle on May 2, 1813, was fought somewhat farther to the S., at the village of Grosgoschen. It was the first great conflict of the united Russian and Prussian army with the army of Napoleon in that decisive campaign; and the French were left in possession of the field.

Luxemburg, a grand-duchy and province of Western Europe; bounded on the N. by the Belgian province of Liege, on the W. by that of Nassau, on the E. by Rhenish Prussia, and on the S. by France. It is 990 square

miles in extent, with a population of about 200,000. It is a neutral, independent State, its neutrality being guaranteed by the European powers. The Belgian province of Luxemburg, adjoining the grand-duchy, is 1,695 square miles in area and has a population of 212,560.

Luzon, the principal and most northerly island of the Philippine group; between the Chinese Sea and the Pacific Ocean; area, 44,400 square miles; pop. 3,432,424. The surface of the island is mountainous, showing volcanic formations, and there are also vast tracts of swampy land. There are also indications of mineral resources, including gold, coal, copper, lead, iron, sulphur, marble, and kaolin. The best quality and largest amount of tobacco is grown on Luzon, and in the S. portion of the island hemp and cocoanut are cultivated extensively. At the time of the cession of the islands to the United States, there was but a single line of railway, extending from Manila N. to Dagupan. The roads in the immediate vicinity of Manila are macadamized and generally in good condition; elsewhere they are of dirt and become almost impassable in the rain season. The different provinces of the island are connected with Manila by telegraph, and there are cables from that city to the S. islands in the group, and also to Borneo, Singapore, and Hong Kong. Manila has a street railway, a telephone service, and electric lights.

The Philippine Commission appointed by President McKinley became the legislative body of the archipelago on Sept. 1, 1900, with power to take and appropriate insular moneys; to establish judicial and educational systems; and to make and execute all laws necessary to Americanize the archipelago. The early results of this new governing body were seen in the establishment of new school laws; in the organization of a competent judiciary; in the improvement in the different provinces of Luzon, as well as in the other islands of the group. The new public school law is modelled on the methods pursued in the United States. The general superintendent of education and a considerable number of teachers are from the United States. At the close of 1900 there were 36 public schools in Manila alone. On June 29, 1900, a college of primary and secondary education was opened in Manila, being the first educational enterprise in the Philippines that was not under the control of the priests, and that depended for support on voluntary contributions. Over 500 pupils were enrolled at the opening. Luzon is making marked progress under American rule, notwithstanding the devastation caused by the recent war, and the continued operations of robber bands.

Lycanthropy, or **Lykanthropy,** a term in anthropology. In a wide sense the term lycanthropy is: "That certain men by natural gift or magic art can turn, for a time, into ravening wild beasts." Less widely it denotes a belief in the temporary change of man into a wolf. Such belief was once widely spread.

LYCIAN TOMB.

Lyceum, the name of an academy at Athens, so called from its position near the temple of Apollo Lyceus. Here Aristotle and his disciples taught, and were called Peripatetics, from their habit of walking up and down its porches while delivering their lectures. In the present day, in France, the

name is given to preparatory schools for the universities, as in them the Aristotelian philosophy was formerly taught. In the United States the name is applied to a literary association designed for the object of mutual improvement.

Lycia, in ancient geography, a country on the S. coast of Asia Minor, extending toward Mount Taurus, and bounded on the W. by Caria, on the N. by Phrygia and Pisidia, and on the E. by Pamphylia. Many monuments and ruined buildings, exquisite sculptures, coins, and other antiquities, testify to the attainments of the Lycians in civilization and the arts, in which they rivalled the Greeks themselves.

Lycurgus, the lawgiver of Sparta; usually dated about 820 B. C. He was uncle of the young King Charilaos, and governed the states wisely during his nephew's infancy, then traveled over Crete, Ionia, and Egypt, and on his return, finding his country in complete anarchy, made a new division of property, and remodelled the whole constitution, military and civil. Next he bound the citizens by oath not to change his laws till he came back, and then left Sparta to be no more seen. His memory was honored as that of a god with a temple and yearly sacrifices.

Lydia, in ancient geography, a country of Asia Minor, celebrated for its fruitful soil, for its mineral wealth, particularly for the gold of the river Pactolus and of the neighboring mines, but was infamous for the corruption of morals which prevailed among its inhabitants, and especially in Sardis, its capital. Crœsus, famed for his immense wealth, was one of its rulers.

Lyell, Sir Charles, a British geologist; born in Kinnordy, Forfarshire, Scotland, Nov. 14, 1797. He was educated at Oxford; resolved to devote his time and fortune to geological research. For this purpose he visited the United States and the continent of Europe. In his "Antiquity of Man" he summarized the evidence in favor of the theory that the race of man was much older than was currently believed. He died in London, England, Feb. 22, 1875.

Lyle, William, a Scottish poet; born in Edinburgh, Scotland, Nov. 17, 1822. After coming to the United States he resided in Rochester, N. Y. His poems are widely read in the United States and Canada.

Lyman, Azel Storrs, an American inventor; born in Potsdam, N. Y., in 1815. He was graduated at the Illinois University. It was his desire to become a clergyman, and he studied for some time wth Dr. Albert Barnes; but an incurable deafness compelled him to relinquish his purpose. He afterward removed to New York. Here he prepared an historical chart which was adopted in many schools and colleges. Devoting himself to inventions, he made valuable discoveries in refrigeration and a new process of ventilation. His fiber gun for disintegrating wood for paper pulp is largely used. Among his later inventions was the multi-charge cannon known as the Lyman-Haskell gun. He died in 1885.

Lyman, Joseph Bardwell, an American agriculturist; born in Chester, Mass., Oct. 6, 1829. In 1867 he became agricultural editor of the New York "World." The following year he was editor of "Hearth and Home," and shortly after joined the staff of the "Tribune." He died in Richmond Hill, L. I., Jan. 28, 1872.

Lyman, Laura Elizabeth Baker, pseudonym Kate Hunnibee, an American journalist; born in Kent's Hill, Me., April 2, 1831. She became widely known from a series of articles which appeared in "Hearth and Home." She has edited the Home-Interest department of the New York "Tribune," and the "Dining-Room Magazine."

Lyman, Theodore, an American philanthropist; born in Boston, Mass., Feb. 20, 1792. He was graduated at Harvard College in 1810. He founded the State Reform School, to which he gave $72,500. He died in Brookline, Mass., July 18, 1849.

Lymph, the fluid resulting primarily from the assimilation of food, and also obtained from the blood and tissues, and which is contained within a system of vessels ramifying throughout the bodies of vertebrates. To these vessels the names of lymphatics and lacteals are applied.

Lynch, James Daniel, an American author; born in Mecklenburg co., Va., Jan. 6, 1836.

Lynch, Charles, a Virginia planter; born in 1736. He was a Revolutionary soldier, and after the war took up his residence in Pittsylvania co., Va. The region in which he lived became at one period of the Revolution infested by bands of Tories and outlaws; deserters from both armies added strength and a semblance of organization to their operations. Wherever they appeared the terror-stricken inhabitants were plundered, harassed, and mercilessly subjected to every variety of insult and outrage. Colonel Lynch succeeded in organizing a body of patriotic citizens, men of known character and standing. At the head of his followers he pursued the enemy, captured many and caused the others to flee from the country. When any of these outlaws fell into his hands, a jury was selected from Lynch's men, over which he presided as judge; the accused allowed to make his own defense, and to show cause, if he could, why he should not be punished. If found guilty the punishment was inflicted on the spot. Colonel Lynch is said to have never willingly condemned a criminal to capital punishment, and to have frequently let prisoners off with a severe flogging and then liberated them on the condition that they would leave the country. He died in 1796.

Lynch Law, punishment, especially capital, inflicted by private individuals independently of the legal authorities. The origin of the term is doubtful; by some it is said to be from James Lynch Fitz-Stephen, warden of Galway, Ireland, who, about 1526, sentenced his son to death for murder, and to prevent a rescue by a mob, executed him with his own hands without due process of law. By others the term is said to have had its origin in the State of Virginia. At first in the United States, "lynch law" was not mob law, as it is now understood. It was orderly, methodical, and fair in its practices, and was strongly opposed to violence or mob rule. Its distinctive feature was simply that its decrees and findings were executed sternly and swiftly on the spot where they had been decided upon.

Lyndhurst, John Singleton Copley, Baron, an English statesman; born in Boston, Mass., May 21, 1772. Intended by his father, J. S. Copley, the artist, to be a painter, he studied for some time under Reynolds and Barry, then entered the University of Cambridge, England, in 1791, took his M. A. degree in 1797, and was called to the bar at Lincoln's Inn. In 1817 he was appointed chief-justice for Chester, and in 1818 entered Parliament. In 1819 he became solicitor-general in the Liverpool administration, in 1824 attorney-general, and in 1826 master of the rolls. He was raised to the peerage as Baron Lyndhurst, and became lord-chancellor in 1827. He died in England, Oct. 12, 1863.

Lyne, Joseph Leycester, called Father Ignatius and Ignatius of Jesus, an English clergyman and religious writer; born in London, England, Nov. 23, 1837. He was a mission curate in London, but withdrew to begin the attempt of restoring monasticism in the Church of England. He built Llanthony Abbey in Wales, and established there a community of monks on the pattern of the Benedictine order. He is the author of many published sermons, poems, tales, etc.

Lynx, a common name for the different varieties of feline carnivora, resembling somewhat the common cat, but larger. Pliny calls them the most "sharp-sighted of all quadrupeds," hence the epithet lynx-eyed. They are fierce and savage and prey on sheep and poultry. The skins are valuable as fur. The lynx, bay or red, extends nearly all over the United States, giving place in Texas and Southern California to the spotted lynx, and in Oregon to the striped variety.

In astronomy a constellation between the head of Ursa Major and the star Capella. None of the stars in the group are larger than the fourth magnitude.

Lyon, Mary, an American educator, born in Buckland, Mass., Feb. 28, 1797; she founded at South Hadley, Mass., the Mount Holyoke Female Seminary, of which she was president until her death. She died there, March 5, 1849.

Lyon, Nathaniel, an American military officer; born in Ashford, Conn., July 14, 1818. He was graduated at the United States Military Academy in 1841 and saw active serv-

ice in the Mexican War in 1846–1847. In 1861, at the breaking out of the Civil War he was in command of the United States arsenal at St. Louis, Mo. In June of that year he was appointed to the command of the military department of Missouri, and on the 17th defeated the Confederates at Boonville. He was killed at the battle of Wilson's Creek, Aug. 10, 1861.

Lyons, a city of France, capital of the department Rhone, and the second of the republic in population, situated chiefly on the peninsula between the rivers Rhone and Saone, 245 miles S. E. of Paris; is the great warehouse of the S. of France and of Switzerland; principal manufacture silk stuffs, giving employment directly or indirectly to 100,000 hands. The cathedeal and Church of St. Nizier, the Hotel de Ville (town hall), the finest edifice of the kind in the country, the hospital, the public library, and the Palais des Beaux Arts, are the most notable among numerous institutions. There are also a university-academy, an imperial veterinary school — the first founded in the country, and still the best — schools for agriculture, medicine, etc. The two rivers are crossed by 19 bridges; 12 over the Saone, and 7 over the Rhone. The quays, 28 in number, are said to be the most remarkable in Europe. There are several large and important suburbs; several fine squares, of which the Place Bellecour is one of the largest in Europe. Lyons, the ancient Lugdunum, was founded about 42 years before the Christian era, and suffered greatly during the Revolution from the conflicts of hostile parties. It was the birthplace of Germanicus, the emperors Claudius, M. Aurelius, and Caracalla. Pop. (1901) 453,145.

Lyons, Richard Bickerton Pemell, Lord, an English diplomatist; born in Lymington, England, April 26, 1817. He was educated at Winchester and Christ Church, Oxford, and in 1839 was appointed attache at Athens. In 1858 he was appointed envoy to Tuscany, and in December of the same year he was accredited to Washington as envoy extraordinary to the United States. It was in this position that he first came prominently before the world as a diplomat. He died in London, England, Dec. 5, 1887.

Lyre, one of the oldest forms of stringed instrument. It was introduced into Egypt from Palestine during the 18th dynasty, and was common among the Greeks even in the heroic times. Most of the barbarians who invaded the Roman empire were acquainted with the lyre, and must have independently attained the knowledge of it. Its sounds can be no more in number than its strings. Consequently, since the rise of the modern scale, the lyre, whose strings were originally seven in number and subsequently increased to 16, has been unable to cope with the growing exigencies of intricate music.

Lyre Bird, an insectivorous Australian bird. The lyre bird is not so large as a hen-pheasant. The 16 rectrices are developed in the male in the extraordinary fashion that gives the bird its English name. The two exterior have the outer web very narrow, and the inner very broad, and they curve at first outward, then somewhat inward, and near the tip outward again, bending round so as to present a lyre-like form. The middle pair of feathers have the outer web broad and the inner web very narrow; they cross near their base, and then diverge, bending round forward near the tip. The remaining 12 feathers are thinly furnished with barbs and present a hair-like appearance. The lyre-bird is becoming rare.

Lyric Poetry, originally poems intended to be sung to the accompaniment of the harp or lyre; now poems intended for musical recitation.

Lysander, a Spartan naval and military commander; lived in the 4th century B. C. He fell in battle, 395 B. C.

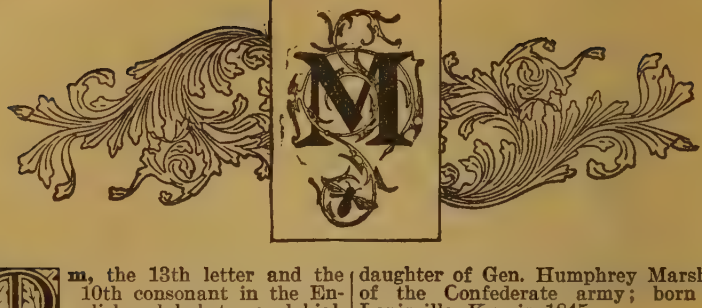
Lysias, a general of Antiochus Epiphanes, King of Syria, who sent him against Judas Maccabæus, by whom he was surprised and defeated with the loss of 5,000 men. Lysias saved himself by flight, and, after the death of Epiphanes, returned to power, as regent, under Antiochus Eupator. He laid siege to Jerusalem; but learning that Philip, who disputed the regency with him, had taken possession of the capital of Syria, he raised the siege, marched against Philip, and defeated him. Both Eupator and himself were subsequently abandoned by their par-

tisans, and slain by their guards in 162 B. C.

Lytle, William Haines, an American general and poet; born in Cincinnati, O., Nov. 2, 1826. He graduated at Cincinnati College and studied law. He was a captain in the Mexican War; and in the Civil War served as colonel in 1861, and later as Brigadier-General of volunteers, having been promoted to that rank for gallant conduct. No complete collection of his works has been published. He was killed at the battle of Chickamauga, Tenn., Sept. 20, 1863.

Lytton, Edward Robert Bulwer-Lytton, Earl of, an English diplomatist; born in London, England, Nov. 8, 1831. He was the only son of the well-known novelist, who sent him to Harrow, and afterward to Bonn, where he devoted himself chiefly to the study of modern languages. He entered the diplomatic service in 1849, being appointed attache at Washington. In 1874 he was appointed minister at Lisbon. It was while here that he was made Viceroy of India in 1876. He proceeded to Calcutta, and from thence to Delhi, where Queen Victoria was proclaimed Empress of India. He adopted an active policy in Afghanistan, which brought about the second Afghan war. In 1880 he was created Earl of Lytton, and when the Conservative government retired in that year he sent in his resignation of viceroy. In 1887 he was appointed British ambassador at Paris. There he remained till his death on Nov. 24, 1891. For many years Lytton was better known as a poet than as a diplomatist, under the pseudonym of Owen Meredith.

Lyveden, Courtenay Robert Percy Vernon, third baron, born 1857, son of Hon. Courtenay John Vernon, rector of Grafton Underwood, Northamptonshire, England; was a private soldier, an actor, a waiter in Bowery restaurant, New York; fisherman in North Carolina, scrubbed and helped to cook on a steamship, etc.; succeeded to barony, on the death of his uncle in 1902, and has a seat in the House of Lords. Liberal in politics.



M, the 13th letter and the 10th consonant in the English alphabet, a labial, produced by a slight expiration with a compression of the lips. In Latin M signified 1,000; the original designation of this number was double D, which gradually became an M.

Mabie, Hamilton Wright, an American editor; born in Cold Spring, N. Y., Dec. 13, 1845. He was graduated at Williams College, practised law for a time in New York city, and then entered journalism, becoming in 1879 associate editor of the "Christian Union," afterward the "Outlook." He has supplemented the written word by much work on the lecture platform.

Macadam, John Loudon, a Scotch engineer, inventor of the system of road-making known as "macadamizing"; born in Ayr, Scotland, Sept. 21, 1756. He went to New York in 1770, entered his uncle's counting house, became a successful merchant, and on his return to Scotland in 1783 bought the estate of Sauchrie, Ayrshire. He began in 1810 to make experiments in the construction of roads, which became a passion with him, and in gaining experience he traveled 30,000 miles, and spent $25,000. In 1816 he was appointed surveyor to the Bristol Turnpike Trust, and re-made the roads there cheaply and well. His methods formed the subject of a select committee of the House of Commons in 1819. He was voted $50,000 and appointed Surveyor-general of Metropolitan Roads in 1827. He declined knighthood. He died in Moffat, Dumfriesshire, Nov. 26, 1836.

MacAfee, Mrs. Nelly Nichol (Marshall), an American novelist, daughter of Gen. Humphrey Marshall of the Confederate army; born in Louisville, Ky., in 1845.

McAfee, Robert Breckinridge, an American historian; born in Mercer co., Ky., in February, 1784. He was United States charge d'affaires at Bogota, Colombia, 1833–1837; and was a member of the Royal Antiquarian Society of Denmark. He wrote a "History of the War of 1812." Much valuable information has been obtained from his private journal, relating to the early history of Kentucky. He died in Mercer co., Ky., March 12, 1849.

MacAlester College, a coeducational institution in St. Paul, Minn.; founded in 1885 under the auspices of the Presbyterian Church.

McAll Mission, the largest Protestant mission in France; founded in 1871 by the Rev. Robert Whitaker McAll (1822–1893) and his wife. It possesses more than 100 stations (about 40 in Paris), and is supported by Protestant Christians of all denominations in the United States, Great Britain, and the British colonies.

McAllister, Fort, a Confederate earthwork on the Ogeechee river, the capture of which by General Hazen, Dec. 13, 1864, was the closing feat of General Sherman's victorious march to the sea.

McAnally, David Rice, an American educator and prose-writer; born in Tennessee, Feb. 17, 1810. He was long associated with Horace Mann in efforts to improve methods in education.

Macaroni, or **Maccaroni,** an article of food composed of the dough of fine wheaten flour, made into long, slender tubes varying in diameter from one-eighth of an inch to an inch; it is a favorite food in Italy, and a taste

for it is very general in America. Macaronis, a body of soldiers from Maryland during the War of Independence, so called on account of their showy uniform.

MacArthur, Arthur, an American military officer; born in Massachusetts, June 1, 1845; enlisted in the volunteer service of the United States in Wisconsin, and was appointed 1st lieutenant of the 24th Wisconsin volunteers, Aug. 4, 1862; promoted major, Jan. 25, 1864; lieutenant-colonel and brevet-colonel in May, 1865, for gallant and meritorious conduct; and was mustered out of the volunteer service, June 10, 1865. After the Civil War he entered the regular army with the rank of lieutenant in the 17th United States Infantry; served bravely in Indian wars; in 1889 was promoted major. In the war against Spain he went to Mobile as one of General Wade's staff, but had been there only a short time when he was appointed a Brigadier-General of volunteers; commanded the third expedition, which left San Francisco, June 27, 1898; was promoted Major-General of volunteers; was promoted Brigadier-General in the regular army, Jan. 2, 1900; commander of the Military Division of the Philippines, promoted Major-General U. S. A., 1901, returned to the United States in the summer of 1901. In 1902 he had command of the land forces in the combined military and naval maneuvers along the Atlantic coast.

MacArthur, Robert Stuart, an American Baptist clergyman; born in Dalesville, Quebec, Canada, July 31, 1841; was graduated at the University of Rochester (1867); at the Rochester Theological Seminary (1870); received the title of D. D. from Rochester Theological Seminary (1880); of LL. D. from Columbian University (1896). He was pastor of Calvary Baptist Church, New York, after 1870, and editor of the "Christian Inquirer" and the "Baptist Quarterly Review."

Macaulay, James, a Scotch novelist and writer for the young; born in Scotland, May 22, 1817. He was educated at Edinburgh University and Paris; editor for 10 years of the "Literary Gazette"; of the "Leisure Hour" (1858–1895); for 35 years editor-in-chief of the Religious Tract Society.

Macaulay, Thomas Babington, an English historian; born in Rothley Temple, Leicestershire, England, Oct. 25, 1800. He composed a compendium of universal history before he was eight years old; went to school at Shelford and entered Cambridge in 1818. In 1826 he was called to the bar, but not succeeding in law practice he soon abandoned it. In 1825 he contributed to the "Edinburgh Review" an essay on Milton. Its effect was electrical, and its reception created such a blaze of popularity for its author that he at once took his place as one of the great literary characters of his time. By the failure of the firm of which his father was a member he was left without a fortune. At this juncture he was offered a seat in the Commons by Lord Lansdowne, entering in 1830 to represent what was then known as a "pocket borough." When the Reform Act of 1832 prevailed, he was made a commissioner of the Board of Control for Indian Affairs, devoting himself to a thorough study of India. In 1834 he accepted a seat on the Supreme Council of India. Here he drafted a penal code which became the basis of the criminal code of India. In 1838 he returned to England, and was at once sent to Parliament from Edinburgh. In 1839 he became Secretary of War in Lord Melbourne's cabinet. In 1846 he was appointed Postmaster-General in Lord John Russell's cabinet, where he had time to devote himself to his "History of England," which he had now begun. He soon retired entirely to private life in order to prosecute this work, refusing a seat in the cabinet in 1852. In 1848 the first two volumes of the "History" appeared. No other historical work ever met with so favorable reception or circulated so rapidly. It was translated into 10 European languages. Its circulation in America has been exceeded by few books ever published. In 1857 he was raised to the peerage as Baron Macaulay of Rothley. He died in Kensington, London, Dec. 28, 1859.

Macaw, a South American bird. The macaws are remarkable for their size and the beauty of their plumage. They are less docile than the true par-

rots, can rarely be taught to articulate more than a few words, and their cry is harsh and disagreeable. There are several species, known as the scarlet, the red and blue, the green and the red, and yellow, all of which have brilliant plumage and are very handsome birds.

Macaw Tree, the name given to several species of trees of tropical America, the fruit of which yields an oil of a yellowish color, with a sweetish taste, and an odor of violets, largely imported into the United States, where it is sometimes sold as palm oil, to be used in the manufacture of toilet soaps.

Macbeth, the hero of Shakespeare's tragedy of that name; a Scotch chief related to the reigning King Duncan, whom he assassinated in order to usurp his power, 1040. He fell in battle by the hand of Macduff in 1057.

McBurney, Charles, an American surgeon; born in Roxbury, Mass., Feb. 17, 1845; was graduated at Harvard College in 1866; and at the Columbia Medical School in 1870. He was Professor of Surgery in the College of Physicians and Surgeons, New York city, and consulting surgeon at St. Luke's, the Presbyterian, the New York Orthopedic, and other hospitals. When President McKinley was shot Dr. McBurney was summoned as consulting surgeon.

McCabe, Charles Cardwell, an American clergyman; born in Athens, O., Oct. 11, 1836; was educated at Ohio Wesleyan University. In 1862 he became chaplain of the 122d Ohio Infantry; and at the battle of Winchester was captured and held in Libby Prison for four months. In 1884 he was made secretary of the Methodist Episcopal Missionary Society. He became widely known through his remarkable success in raising large amounts of money for missionary purposes. He was elected a bishop of his Church in 1896. He has lectured on "The Bright Side of Libby Prison."

Maccabees, a name applied to a patriotic family whose achievements were most notable. Antiochus Epiphanes a Syrian king, attempted to put down the Jewish worship, Palestine then being under his sway. The revolt began 168 B. C., under the leadership of Judas Maccabaeus, and in 165 Judas took Jerusalem and purified the Temple. After achieving success, a Maccabean, called also an Asmonæan, dynasty reigned for about a century. Herod the Great, slaughterer of the infants of Bethlehem, putting to death Hyrcanus, the last scion of the house, though he was inoffensive, pious, and the high priest.

The Books of Maccabees: Four books of our present Apocrypha, with a fifth not in that collection.

Maccabees, Order of Knights of the, a fraternal and beneficiary organization founded in 1881 by Maj. N. S. Boynton, of Port Huron, Mich., on the traditions of the ancient Maccabees. The order has steadily and rapidly increased in numbers and importance. In 1900 reports showed 3,800 subordinate tents and hives, and 227,936 members.

McCall, George Archibald, an American military officer; born in Philadelphia, Pa., March 16, 1802. He was graduated at the United States Military Academy in 1822, and saw active service in the Seminole War and in the Mexican War. In May, 1861, he was commissioned Brigadier-General of volunteers, and took part in the Virginia campaign of 1861–1862. He was in command at the battle of Mechanicsburg, June 26, 1862, and on June 30 was taken prisoner, and confined for several weeks in Libby Prison. He resigned from the army in 1863. He died in Chester, Pa., Feb. 25, 1868.

McCalla, Bowman Hendry, an American naval officer; born in Camden, N. J., June 19, 1844; was graduated at the United States Naval Academy in 1864; promoted captain in 1898. In 1890 he was court-martialed on charges of cruelty toward the officers and crew of his ship, the "Enterprise," and was sentenced to suspension for three years. In the following year the President remitted the unexpired portion of the suspension because of his general record for gallantry. He commanded the protected cruiser "Marblehead" during the war against Spain in 1898, and rendered invaluable service to the American fleet by arranging a code of signals with the insurgents on shore, by personal communication with them, and

by scouting. His conduct here was so meritorious that the Secretary of the Navy recommended to the President the restoration of Captain McCalla to the place on the list of officers he occupied prior to his suspension. In October, 1899, he sailed for Manila in command of the "Newark," and on Dec. 12 received the surrender of all insurgent military forces in the provinces of Isabella and Cagayan, Northern Luzon, and in the Batan Islands. When the Boxer troubles broke out the "Newark" was ordered to Chinese waters. In June, 1900, he landed with 112 men, with whom he formed part of the column under Vice-Admiral Seymour that made the memorable but unsuccessful attempt to reach and relieve the legations in Peking. For his services at this time he received the congratulations of the Navy Department. On March 16, 1901, Captain McCalla was given command of the new battleship "Kearsarge," one of the most coveted commands in the navy.

MacCarthy, Denis Florence, an Irish poet; born in Dublin, Ireland, in 1817. He wrote extensively, both original verse and translations from the Spanish, earning the praises of Ticknor and Longfellow, and in 1881 a medal from the Royal Academy of Spain. He died in Blackrock, near Dublin, April 7, 1882.

McCarthy, Justin, an Irish historian; born in Cork, Ireland, Nov. 22, 1830. He was a Home-Rule member of Parliament after 1879, and after the fall of Parnell, chairman of the Irish Parliamentary party. He spent three years (1868–1870) in the United States, traveling, lecturing, and engaged in literary work, being (among other things) connected editorially with the New York "Independent." He revisited the United States in 1886.

McCaul, John, a Canadian educator and writer; born in Dublin, Ireland, in 1807. In 1849 and 1853 he was elected president of Toronto University. He published several volumes of articles and treatises on classical subjects, besides editing portions of Horace, Longinus, Lucian, and Thucydides, as college text-books.

Macchiavelli, or Machiavelli, Nicolo, a Florentine statesman and historian; born in Florence, Italy, May 3, 1469. After a life of great vicissitudes, due to the unsettled state of Italian, and especially Florentine politics, he died in poverty on June 22, 1527, in his native city. He was buried in the Church of Santa Croce, and a monument to him was erected by Earl Cowper in 1787. He has gained immortality by his book "The Prince," written in 1513, just after the return of the Medici, and is dedicated to Lorenzo de' Medici, by whom and by Giuliano de' Medici alone it was originally intended to be perused. The subject of the treatise (which is a short one) is the means by which a prince may acquire and maintain power; and what most strikes every modern reader of the book is the undisguised manner in which the author exhorts a prince to make use of all means, whether good or bad from a moral point of view, for these purposes, provided only that they are fitted to effect his object.

McClellan, George Brinton, an American military officer; born in Philadelphia, Pa., Dec. 3, 1826; was graduated at the United States Military Academy in 1846; joined the army as 2d lieutenant of engineers; took an active part in the Mexican War, where he distinguished himself under General Scott, and was promoted to a captaincy. At the commencement of the Civil War in 1861 he was appointed Major-General of the Ohio volunteers, but by the advice of General Scott he was tendered, by President Lincoln, the position of Major-General of the army. After a successful campaign in West Virginia he commanded and reorganized the Army of the Potomac; in the spring of 1862 invaded Virginia, and advanced near to Richmond, but was compelled to retreat and finally to evacuate the peninsula; after the defeat of General Pope in the second battle of Bull Run, in 1862, which was followed by a Confederate invasion of Maryland, he reorganized the army at Washington, marched rapidly N., met the forces of General Lee at Antietam. He won one of the hardest fought battles of history, and compelled Lee to recross the Potomac. He followed the Confederates into Virginia, but being opposed to the policy of the extreme war party

he was superseded by General Burnside. In 1864 he left the army and was the Democratic candidate for the presidency. He went to Europe in 1865, and, returning in 1868, superintended the construction of the Stevens floating battery. In 1870 he was appointed chief engineer of the department of docks for New York city, which office he subsequently resigned. He was elected governor of New Jersey in 1877, and administered that office to the satisfaction of all. He died in Orange, N. J., Oct. 29, 1885. General McClellan was beloved and admired by his troops, and is justly regarded as one of America's great commanders.

McClellan, George Brinton, born Nov. 23, 1865, at Dresden, Germany, where his parents, the late Gen. George B. McClellan, and Ellen (Marcy) McClellan, were on a visit. A graduate of Princeton, young McClellan worked as a reporter and editor on leading New York dailies, and was admitted to the bar. He has been President of the Board of Aldermen, treasurer of the Brooklyn Bridge, and member of Congress, 1895–1903, having been reëlected in 1902; was nominated for mayor of New York by the Democrats in 1903 and elected.

McClelland, Robert, an American lawyer; born in Franklin co., Pa., in 1807; was graduated at Dickinson College, Pa.; in 1833 migrated to Michigan; from 1843 to 1849 represented the State in Congress; in 1852 was elected governor of Michigan; in 1835 President Pierce appointed him Secretary of the Interior. He died in Detroit, Mich., Aug. 30, 1880.

McClernand, Edward John, an American military officer; born in Jacksonville, Ill., Dec. 29, 1848; was graduated at the United States Military Academy in 1870; on duty in the West till 1879; Aug. 17, 1899, he was promoted colonel of the 44th Volunteer Infantry and ordered to the Philippine Islands. He routed the insurgents at Sudlon Mountain, Cebu, Jan. 8, 1900, and was commander of the W. coast of that island till April of the same year; was then given command of the 2d District in the Department of the Visayas, including the islands of Cebu, Bohol, Mactan, Bantayan, and "The Camotes."

McClernand, John Alexander, an American lawyer and soldier; born in Breckenridge co., Ky., May 30, 1812; admitted to the bar in 1832; was member of Congress 1843–1851; re-elected in 1858. At the commencement of the Civil War he joined the Union forces and was made a Brigadier-General of volunteers. He won distinction at the battle of Fort Donelson, and for his services was promoted Major-General. He relieved Sherman in command of the army before Vicksburg in 1863, and resigned in November, 1864. He was circuit judge for the Sangamon, Ill., district in 1870–1873; chairman of the Democratic Convention in St. Louis in 1876; and later member of the Utah Commission under President Cleveland. He died in Springfield, Ill., Sept. 20, 1900.

MacClintock, Sir Francis Leopold, a British naval officer and Arctic explorer; born in Dundalk, Ireland, in 1819. He succeeded, in the course of several voyages toward the North Pole, in making many and important discoveries, besides ascertaining the fate of Sir John Franklin. He was commander-in-chief of the North American and West Indian Station in 1879–1882; was created a K. C. B. in 1891.

McClintock, John, an American educator and author; born in Philadelphia, Pa., Oct. 27, 1814; was elected president of Drew Theological Seminary in 1867. He was the author with James Strong of the "Cyclopædia of Biblical, Theological and Ecclesiastical Literature" (12 vols.); a work of many years' labor, and intended to cover the whole field embraced in the title. The last volume was published in 1895. He died in Madison, N. J., March 4, 1870.

McCloskey, John, an American Roman Catholic prelate; born in Brooklyn, N. Y., March 20, 1810. In 1834 he was ordained priest; in 1864 was made Archbishop of New York; in 1875 was appointed cardinal-priest. The history of his life is the history of the progress of the Roman Catholic Church in New York. He died in New York city, Oct. 10, 1885.

McCook, Alexander McDowell, an American military officer; born in Columbiana co., O., April 22, 1831; was graduated from the United States Military Academy in 1853; was in

command of the 1st Ohio Volunteers at the battle of Bull Run and was brevetted major; was made Brigadier-General of volunteers in September, 1861, Major-General in 1862, and was brevetted Brigadier-General, U. S. A., in 1865. He was promoted Brigadier-General, U. S. A., in 1890; Major-General in 1894; and was retired April 22, 1895. He represented the United States at the coronation of the Czar of Russia in 1896; and was a member of the commission appointed to investigate the War Department in the war against Spain, 1898–1899. He died June 13, 1903.

McCook, Daniel, an American military officer; born in Canonsburg, Pa., June 20, 1798. When the Civil War began he was 63 years old, but entered the Union army as a major of volunteers. He received a fatal wound in trying to check a raid of Gen. John Morgan and died near Buffington's Island, O., July 21, 1863. He had 10 sons in the Union service.

McCook, Henry Christopher, an American clergyman and naturalist; born in New Lisbon, O., July 3, 1837. He was vice-president of the American Entomological Society, and of the Academy of Natural Sciences of Philadelphia; and author of books on religious, patriotic, and entomological subjects.

McCormick, Cyrus Hall, an American inventor; born in Walnut Grove, W. Va., Feb. 15, 1809. The reaping machine invented by him won him many gold medals and distinctions. He established the Presbyterian Theological Seminary of the Northwest in Chicago, 1859. He died in Chicago, Ill., May 13, 1884.

McCormick Observatory, the astronomical station of the University of Virginia, near Charlottesville, Va. The funds for the construction of the observatory were principally the gift of Leander J. McCormick, and it was built in 1883–1884.

McCosh, James, a Scotch-American theologian; born in Carskeoch, Ayrshire, Scotland, April 1, 1811. In 1863, at the solicitation of the faculty and trustees of Princeton College, N. J., he came to the United States and became president of that institution. Under his guidance and the influence of his name Princeton advanced to a higher place than ever before among the universities of the United States. He resigned the presidency of Princeton in 1888. He died in Princeton, N. J., Nov. 16, 1894.

MacCracken, Henry Mitchell, an American educator; born in Oxford, O., Sept. 28, 1840; was graduated at the Miami University in 1857; studied at the Princeton Theological Seminary and in Europe. He accepted the chair of philosophy and the vice-chancellorship of New York University in 1884, and was chosen chancellor in 1891.

McCrary, George Washington, an American lawyer; born near Evansville, Ind., Aug. 29, 1835; member of Congress from Iowa in 1868–1870 and 1872–1876; introduced the law under which the judiciary of the United States was reorganized; was Secretary of War in 1876–1879; and was judge of the 8th Judicial District in 1879–1884. He was the author of "American Law of Elections." He died in St. Joseph, Mo., June 23, 1890.

McCreary, James Bennett, an American lawyer; born in Madison co., Ky., July 8, 1838; was graduated at Center College, Danville, Ky., in 1857; joined the Confederate army in 1862 as major of cavalry; was promoted lieutenant-colonel; governor of Kentucky in 1875–1879, and member of Congress in 1885–1897. He was a delegate to the International Monetary Conference at Brussels, Belgium, in 1891.

McCullagh, Joseph Burbridge, an American journalist; born in Dublin, Ireland, in 1842. He went to the United States in 1853. On the outbreak of the Civil War he enlisted as lieutenant under Gen. John C. Fremont, but later resigned to become a war correspondent. He later became editor-in-chief of the St. Louis "Globe-Democrat," which, under his charge, became one of the leading papers of the land. He died in St. Louis, Mo., Dec. 31, 1896.

McCulloch, Benjamin, an American military officer; born in Rutherford co., Tenn., Nov. 11, 1811; settled in Texas, and served in the Mexican War as a captain of Rangers. At the outbreak of the Civil War he became Brigadier-General in the Confederate

army and was killed while leading his command at the battle of Pea Ridge, March 7, 1862.

McCulloch, Hugh, an American financier; born in Kennebunk, Me., Dec. 7, 1808; received a collegiate education; settled in Fort Wayne, Ind., in 1833. In 1863 he was made comptroller of the currency, and in 1865 appointed Secretary of the United States Treasury. Owing to the drain on the National finances during the Civil War the Treasury at this time was in a very precarious condition, but in less than six months after Mr. McCulloch's appointment a large sum of the money due 500,000 soldiers and sailors was paid, other expenses met, and the National debt greatly reduced. He was Secretary of the Treasury in 1865–1869 and in 1884–1885. He wrote "Men and Measures of Half a Century." He died near Washington, D. C., May 24, 1895. The revenue cutter "McCulloch," which bore a conspicuous part in the battle of Manila Bay, was named after him.

MacCullough, John Edward, an American tragedian; born in Coleraine, Ireland, Nov. 2, 1837; came to the United States in 1853. He was at the height of a very successful career when, in 1884, both his mind and body gave way and he died in an insane asylum in Philadelphia, Pa., Nov. 8, 1885.

McCurdy, James Frederick, a Canadian Orientalist; born in Chatham, N. B., Feb. 18, 1847; Professor of Oriental Languages in University College, Toronto, Ontario (1888). He has published various essays on subjects connected with Oriental learning.

MacDonald, George, a Scotch novelist and poet; born in Huntley, Aberdeenshire, Scotland, in 1824; educated at King's College and University, Aberdeen, and at Independent College, Highbury, London. He was originally an Independent minister, but became a lay member of the Church of England. He lectured in the United States (1872–1873).

MacDonald, James Wilson Alexander, an American sculptor; born in Steubenville, O., Aug. 25, 1824. His works include a colossal bronze statue of Edward Bates in Forest Park, St. Louis, Mo.; a colossal head of Washington in Prospect Park, Brooklyn, N. Y., etc.

Macdonald, Sir John Alexander, a Canadian statesman; born in Glasgow, Scotland, Jan. 11, 1815. He was premier in 1869–1873, when he resigned, over the Pacific Railway charges, but resumed the office again in 1878, and retained it for the rest of his life. He died in Earnscliffe Hall, near Ottawa, June 6, 1891.

McDonough, Thomas, an American naval officer; born in New Castle co., Del., Dec. 23, 1783. In 1814 he commanded a squadron on Lake Champlain, and defeated the British under Commodore George Downie. For this service he was promoted captain and was given a gold medal by Congress. He died at sea, Nov. 16, 1825.

McDougall, Alexander, an American military officer; born on the Island of Islay, Scotland, in 1731; emigrated to America in 1755. He was colonel of the 1st New York Regiment at the beginning of the Revolution; promoted Brigadier-General in August 1776; promoted Major-General in 1777; and was later placed in command of the Hudson Highlands; was a member of Congress in 1781; for a short time Minister of Marine (Secretary of Navy); and again in Congress in 1784–1785. He died in New York city, June 8, 1786.

McDowell, Irvin, an American military officer; born near Columbus, O., Oct. 15, 1818; was aid-de-camp to General Wool in the Mexican War (1845); commanded the Department of Northeastern Virginia and the defenses of Washington (1861), and the Army of the Potomac at the battle of Bull Run. He died in San Francisco, Cal., May 5, 1885.

McDowell, Katharine Sherwood, an American poet; born in Holly Springs, Miss., Feb. 26, 1849. In 1872 she became private secretary to Longfellow. She died in Holly Springs, Miss., July 22, 1884.

Mace, in old armor, a military implement used for dealing heavy blows, and constructed so as to fracture armor. The mace is still retained among the Turkish irregular cavalry.

Mace, a spice, the dried aril or covering of the seed of the nutmeg. It is extremely fragrant and aromatic

and is chiefly used in cooking or in pickles.

Macedonia, in ancient geography, a territory lying to the N. of Greece, which first became powerful under its king, Philip, the father of Alexander the Great, and conqueror of Greece. Alexander the Great added immensely to the empire of Macedonia, and made what had only been a petty province mistress of half the world. After his death the empire was divided.

Maceo, Antonio, a Cuban patriot; born in Santiago de Cuba in 1843. In the 10-years' rebellion, 1868–1878, he was on the military staff of General Gomez, the Cuban leader. In 1890 he was formally banished from Cuban soil by the Spanish government, but at the outbreak of the war of 1895–1898 he returned to Cuba and took command of 7,000 insurgents in his native province, and was thereafter engaged in various battles and skirmishes with the Spanish armies. Early in December, 1896, while attempting to penetrate the Spanish lines with a skirmishing troop, he was killed. He was accounted a brave, intelligent, and sagacious commander.

Maceo, Jose, a Cuban patriot; brother of Antonio Maceo; born in Santiago de Cuba in 1846. He was one of the leading spirits in the insurrection of 1868–1878, and was taken prisoner and sent to Spain. He attempted to escape to Gibraltar, but was captured and sent to the fortress of La Mola at Mahon, in the Balearic Islands; thence he made his escape to Algiers; when the rebellion again broke out in Cuba he returned there, arriving March 31, 1895. In a brief time he raised a large force, with which he defeated the Spaniards at Jobito in May, and again in September at Sao del Indio. He was killed at La Lama del Gato, July 5, 1896.

MacGahan, Januarius, Aloysius, an American war correspondent; born near New Lexington, O., June 12, 1844. He was war correspondent of the New York "Herald" during the Franco-Prussian War (1870–1871); accompanied the Russian expedition against Khiva in 1873, and the Arctic expedition on the "Pandora" in 1875. He is regarded by the Bulgarians as the author of their independence. He died in Constantinople, June 9, 1878.

McGiffen, Philo Norton, an American-Chinese naval officer; born in Pennsylvania, in 1863; was graduated at the United States Naval Academy in 1882; was sent to the China Station; resigned from the United States navy on the outbreak of war between France and China, and entered the service of the latter. He was placed in charge of the principal Chinese naval academy, and became a trusted companion of Admiral Ting, Li Hung Chang, and other Chinese officials. When the war broke out between Japan and China he was given command of the "Chen Yuen," the sister ship of the Chinese flagship. He was the first man of American or European blood who ever commanded a modern warship in battle; and his heroic conduct in the terrible fight on the Yalu, on Sept. 17, 1894, deserves a conspicuous place in history. He was so near the first gun when it exploded that his clothing was set on fire, his eyebrows and hair burned, his eyes injured, and though his ears were stuffed as tightly as possible with cotton, the drums of both ears were permanently injured by the explosion. He was unconscious for a time, but as soon as he regained his senses was on his feet giving orders. He received 40 wounds, many of them caused by splinters of wood; with his own hands he extracted a large splinter from his hip, and holding his eyelids open with his finger, he navigated his ship, which had been struck 400 times, safely to its dock, skillfully evading capture. The "Chen Yuen" was the only one of the Chinese vessels that came out of the fight with credit. In that dreadful battle McGiffen's nerves, limbs, and senses were shattered. He soon afterward returned to New York city, and while undergoing treatment in a hospital shot himself fatally, Feb. 11, 1897.

McGill, Alexander Taggart, an American theologian; born in Canonsburg, Pa., Feb. 24, 1807. In 1848 he was elected moderator of the General Assembly, and was then the youngest moderator in the Presbyterian Church. In 1854 he was appointed Professor of Homiletical and Pastoral Theology at the Theological Seminary, Princeton, N. J. He died in Princeton, N. J., Jan. 13, 1889.

McGill, James, a Canadian philanthropist; born in Glasgow, Scotland, Oct. 6, 1744. He emigrated to Canada before the American Revolution. He bequeathed to the college of Montreal that bears his name property valued even at that time at $120,000. He died in Montreal, Canada, Dec. 19, 1813.

McGill University, an educational institution in Montreal, Canada, founded by John McGill in 1811.

McHenry, Fort, a fortification at the entrance of Baltimore harbor, which was unsuccessfully bombarded by the British fleet in 1814. It was at this time that "The Star Spangled Banner" was written by Francis Scott Key, an American citizen, who was detained on board a British vessel and witnessed the bombardment.

McHenry, James, an American novelist; born in Larne, County Antrim, Ireland, Dec. 20, 1785. He came to the United States in 1817, and settled in Philadelphia in 1824. He died in Larne, Ireland, July 21, 1845.

Machete, a cutlass-like tool or weapon, half knife, half cleaver, used either as a tool or weapon in Cuba and other countries of tropical America.

Machias, The, a twin-screw, steel gunboat belonging to the United States navy.

Machine Gun, a piece of ordnance of small caliber which can deliver a number of projectiles, either simultaneously or in rapid succession.

Mackay, Charles, a Scotch journalist; born in Perth, March 27, 1814; was editor of the "Illustrated London News," 1852–1869; and lectured in the United States in 1857–1858. While special correspondent of the London "Times" in New York during the Civil War (strongly favoring the Southern cause), he unearthed the Fenian conspiracy (1862). He died in London, Dec. 24, 1889.

Mackay, John William, an American capitalist; born in Dublin, Ireland, Nov. 28, 1831. After a miner's life in California, in 1860, he went to Nevada. In 1872 he was one of the discoverers of the Bonanza mines, of which he owned two-fifths. Their production has been enormous. In 1884, in partnership with James Gordon Bennett, he laid two cables across the Atlantic. He died in London, England, July 20, 1902.

McKean, Thomas, an American philanthropist; born in Philadelphia, Pa., Nov. 23, 1842; was graduated at the University of Pennsylvania in 1862 and began a successful career in business, becoming an officer in many railroad and financial corporations. He accumulated a large fortune and was a liberal benefactor of educational and charitable enterprises. His various gifts to the University of Pennsylvania alone aggregated $300,000. He died in Philadelphia, Pa., March 16, 1898.

McKenna, Joseph, an American jurist; born in Philadelphia, Pa., Aug. 10, 1843; removed to Benicia, Cal., with his parents and received an academic education; studied law and was admitted to the bar in 1865; served two terms as district attorney for Solano county; a member of the California Legislature in 1875–1876; United States circuit judge in 1893–1897; Attorney-General of the United States from March, 1897, to January, 1898; and then was appointed an associate justice of the United States Supreme Court.

Mackenzie, Sir Alexander, a Canadian explorer; born in Inverness, Scotland, in 1755. In the employment of the Northwest Fur Company he explored the great river named after him from the W. end of Great Slave Lake to the Arctic Ocean (1789). He made another expedition to the W. coast (1792), and was the first white man to cross the Rocky Mountains and reach the Pacific coast. He returned to Great Britain in 1801, and was knighted. He died in Mulnain, near Dunkeld, Scotland, March 11, 1820.

Mackenzie, Alexander, a Canadian statesman; born in Logierait, Perthshire, Scotland, Jan. 28, 1822; removed to Canada in 1842. In 1873 he succeeded Macdonald as premier, and remained at the head of the government till 1878. Mr. Mackenzie thrice declined the honor of knighthood. He died in Toronto, Canada, April 17, 1892.

Mackenzie, Alexander Slidell, an American naval officer; born in New York, April 6, 1803. He was a brother of John Slidell, the Confeder-

ate commissioner — "Mackenzie" being assumed later. He published "A Year in Spain, by a Young American," which attained great popularity in England and the United States. Washington Irving commended it highly. He died in Tarrytown, N. Y., Sept. 13, 1848.

Mackenzie, Robert Shelton, an American writer; born in Drews Court, County Limerick, Ireland, June 22, 1809. He went to the United States in 1852. He died in Philadelphia, Pa., Nov. 30, 1880.

McKinley, William, an American statesman, 24th President of the United States; born in Niles, O., Jan. 29, 1843. He was educated at the public schools, and at the Poland, O., Academy. In May, 1861, he volunteered for the army, and entered the 23d Ohio Infantry as a private. He served four years, rising by merit and faithfulness to the captaincy of his company, and to the rank of major when mustered out in 1865. He at once began the study of law; in 1867 was admitted to the bar, and commenced practice at Canton, O., where he afterward had his residence. In 1869 he was elected prosecuting attorney for Stark county, where his success attracted local attention. Entering politics, he was elected to Congress in 1876, and was reëlected for six successive terms. In 1882 his election was contested, and he was unseated, but triumphantly returned at the next election. His reputation in Congress rests chiefly on the tariff bill that bears his name. It was drawn by him as chairman of the Ways and Means Committee, and passed by the 51st Congress. This bill and his able advocacy of it before the House distinguished him as the leader of the Republican party, on the tariff question. The Republican party went before the country in 1892 almost solely on the issue raised by the McKinley tariff, but a reaction against it had set in, and Mr. Cleveland was elected. Meanwhile McKinley failed of reëlection in his district, though largely reducing the adverse plurality created by a redistricting that changed the limits of the district. In 1891 he was elected governor of Ohio by a large plurality over former Governor James E. Campbell, a very popular Democrat, and reelected in 1893 in the reactionary tidal wave of politics following a contrary tariff policy, that carried the Republican party back to power in Congress, having a plurality of over 80,000. By this time his name was frequently mentioned as a future candidate for the presidency. In 1895 a systematic canvass in McKinley's behalf was instituted by his supporters which was continued till the election of 1896. These sagacious and well-timed efforts, with the general acceptability of McKinley in the Republican party ranks, made it certain long before the convention met that he would be the candidate. He was nominated and elected by a plurality of 603,514, and an electoral majority of 95, after a campaign of more intense interest than was displayed in any election since the Civil War.

President McKinley's first term is memorable chiefly for the occurrence of the Spanish-American War and its unexpected results. That his policy during 1896–1900 was acceptable was shown by his unanimous renomination and reëlection in 1900 by a plurality of 849,000 and an electoral majority of 137. His second term began most auspiciously and ended tragically. On Sept. 5, 1901, he visited the Pan-American Exposition in Buffalo, N. Y., that day having been set apart in his honor and called the "President's Day." On the afternoon of the following day, while holding a public reception in the Temple of Music, he was shot twice by Leon F. Czolgosz, an anarchist, who was at once arrested. The wounded President was first taken to the Emergency Hospital on the exposition grounds for immediate treatment, and then removed to the residence of John N. Milburn, the president of the exposition. Hopes of his recovery were entertained for several days, but on Sept. 13 he began to sink rapidly and died at 2:15 A. M., Sept. 14. His remains were removed to Washington on Sept. 16, laid in state in the Capitol on the 17th, and taken to his home city, Canton, O., where they were interred on the 18th amid universal mourning. The assassin was placed on trial in Buffalo, N. Y., on Sept. 23, and found guilty of murder in the first degree on Sept. 24, in a trial lasting less than nine hours and covering a period of two

days. On Sept. 28 he was sentenced to death, and on Oct. 29, the sentence was carried out.

McKinley Act, a tariff bill reported to Congress May 21, 1890, by the Ways and Means Committee of the House of Representatives, of which William McKinley was chairman. It became a law in October, 1890, and was repealed in 1894. It raised the duties on wool, woolen manufactures, on tin-plate, barley, and some other agricultural products, and remitted the duty on raw sugar. The reciprocity feature was an important part of the bill, this providing for the remission of duty on certain products from those countries which should remove duties on American imported products.

Mackenzie River, in North America, a stream having its origin, as the Athabasca, in a Rocky Mountain lake in British Columbia, flowing over 600 miles to Lake Athabasca, and 240 as the Slave river to Great Slave Lake, where it assumes the name of Mackenzie river, conveying the waters of the Great Slave Lake to the Arctic Ocean at Mackenzie Bay, after a final course of 1,045 miles, making a total river-system of nearly 2,000 miles. It drains an area of little less than 600,000 square miles. The Mackenzie received its name from Sir Alexander Mackenzie, by whom it was discovered and first navigated in 1789.

Mackerel, one of the spiny finned fishes. The home of the common mackerel may be broadly described as the North Atlantic Ocean. It is an extremely valuable food fish, and the mackerel fishery is only second in importance to the herring and cod fisheries.

Mackey, Albert Gallatin, an American writer on Freemasonry; born in Charleston, S. C., March 12, 1807. His works are authorities. He died in Fort Monroe, Va., June 20, 1881.

McKibbin, Chambers, an American military officer; born in Pittsburg, Pa., Nov. 2, 1841; joined the army as a private Sept. 22, 1862, and two days afterward was made 2d lieutenant of the 14th Infantry. He won distinction during the engagement of North Anna River, Va., and was promoted 1st lieutenant June 10, 1864. In July, 1898, he was commissioned a Brigadier-General of volunteers; participated in the battle of Santiago de Cuba; and for gallantry was promoted Brigadier-General, U. S. A., and made military governor of that city. On June 6, 1899, he was placed in command of the Department of Texas.

McLaws, Lafayette, an American military officer; born in Augusta, Ga., Jan. 15, 1821; was graduated at the United States Military Academy in 1842; served in the Mexican War till the surrender of Vera Cruz; and was promoted captain Aug. 24, 1851. At the beginning of the Civil War he was commissioned a Brigadier-General in the Confederate army; and was promoted Major-General May 23, 1862. During the march of Sherman to the sea he commanded the defenses of Savannah and had charge of the Military District of Georgia. He was made collector of internal revenue at Savannah in 1875 and postmaster there in 1876. He died in Savannah, Ga., July 24, 1897.

Maclay, Edgar Stanton, an American author; born in Foochow, China, April 18, 1863; graduated at Syracuse University, N. Y., in 1885. On Sept. 7, 1901, he was appointed a "skilled laborer" at the New York navy yard. He wrote a "History of the United States Navy." In the third volume of that work, where a description of the battle between the fleets of the United States and Spain at Santiago is given, the author reflected on Rear-Admiral Schley. After the publication of this volume Admiral Schley called for a court of inquiry into his conduct, which was granted. After the court made its report the Secretary of the Navy requested the resignation of Maclay in December, 1901. The latter on refusing to comply with this request, was summarily dismissed by order of President Roosevelt. Besides the above named work Maclay wrote "Reminiscences of the Old Navy," and "The History of American Privateers." His work previous to the attack on Admiral Schley was universally commended.

McLellan, Isaac, an American poet; born in Portland, Me., May 21, 1806; was educated at Bowdoin College. He was a friend of Longfellow, Hawthorne, Daniel Webster, and the

poet Willis. His love for outdoor sports was so intense, and his poems on these themes so numerous, that they won him the title of "the poet-sportsman." He died in Greenport, L. I., Aug. 20, 1899.

Maclise, Daniel, a British painter; born in Cork, Ireland, Feb. 2, 1806. He was the son of a Highland soldier named McLeish. He entered the school of the Royal Academy, London, in 1828, soon exhibited at the Academy, and in 1833 made himself famous by his "All-Hallow Eve." His later pictures are many of them familiar by engraving. The frescoes — each 45 feet long and 12 feet high — in the Royal Gallery of the House of Lords, depicting "The Meeting of Wellington and Blucher on the Evening of the Battle of Waterloo" and "The Death of Nelson at Trafalgar," were admitted to be the finest mural paintings hitherto executed in Great Britain. He died in London, England, April 25, 1870.

Macmahon, Marie Edme Patrice Maurice de, Duke of Magenta, a Marshal of France, descended from an Irish Jacobite family; born in Sully, near Autun, France, Nov. 28, 1808. Entering the army, he saw much active service in Algeria, and in the Italian campaign of 1859, winning a Marshal's baton and the dignity of Duke of Magenta for the decisive part he took in the battle of that name. In 1873 he was elected president of the republic for a period of seven years, with some hope that the restoration through him of the Bourbons might be secured. He resigned on Jan. 30, 1879. He afterward lived in retirement, and died in Paris, Oct. 17, 1893.

McMaster, Guy Humphrey, an American poet; born in Clyde, N. Y., Jan. 31, 1829. At 19 he wrote "Carmen Bellicosum," better known as "The Old Continentals," published in the "Knickerbocker Magazine," and very popular. He died in Bath, Steuben co., N. Y., Sept. 13, 1887.

McMaster, John Bach, an American historian; born in Brooklyn, N. Y., June 29, 1852. He was a civil engineer, 1873–1877; instructor in civil engineering in Princeton College, 1877–1883; Professor of American History in the University of Pennsylvania after 1883. He wrote "Benjamin Franklin as a Man of Letters" (1887); "History of the People of the United States," etc. He holds a high place among American historians.

Macomb, Alexander, an American military officer; born in Detroit, Mich., April 3, 1782; joined the army in 1799. He was made Brigadier-General in January, 1814; and placed in command of the Lake Champlain region in the summer of that year. On Sept. 11 he won a brilliant victory at Plattsburg, for which he was promoted Major-General and received a gold medal and a vote of thanks from Congress. In 1835 he was appointed General-in-Chief of the United States armies and held that post till his death in Washington, D. C., June 25, 1841. He was the author of "Martial Law and Courts-Martial."

Macon, Nathaniel, an American statesman; born in Warren co., N. C., Dec. 17, 1757. He was educated at Princeton College; in 1777 left college; served for some time as a private in a company of volunteers; and at the expiration of this first service enlisted again as a volunteer and served as a common soldier under the command of his brother, Col. John Macon, till the provisional treaty of peace in 1782, refusing any pay or military distinction. While yet in the army, in 1780, he was elected a member of the Senate of North Carolina; and when the Constitution of the United States was submitted to the vote of the people of that State, he firmly opposed it, as conferring too much power on the new government. He was elected a member of the United States House of Representatives in 1791, and continued in that office by successive reëlections till 1815. In 1816 he was elected to the Senate, where he served till 1828, when he resigned his seat, having been then a member of Congress for 37 successive years, the longest term of service that has fallen to the lot of any legislator in the United States. He died on his plantation, in the same county where he was born, June 29, 1837.

McPherson, Edward, an American journalist and author; born in Gettysburg, Pa., July 31, 1830; was graduated at the University of Pennsylvania (1848); was a member of Congress (1858 and 1860); permanent

president of the National Republican Convention (1876); editor of the Philadelphia "Press" (1877–1880); received the degree of LL. D. from the University of Pennsylvania (1877). Died in Gettysburg, Pa., Dec. 14, 1895.

Macpherson, James, the translator of Ossianic poems; born in Ruthven, Inverness-shire, Scotland, Oct. 27, 1736. Having, in 1760, produced "Fragments of Ancient Poetry, Translated from the Gaelic or Erse Language," they were so well received, that a subscription was formed to enable the author to collect additional specimens of national poetry. The result of his researches was "Fingal, an Ancient Epic Poem," in six books, together with several other poems (professedly translated from originals), by Ossian, the son of Fingal, a Gaelic prince of the 3d century, and his contemporaries. In 1764 he accompanied Governor Johnstone to Florida, as secretary. After his return he translated the "Iliad" into Ossianic prose; wrote a "History of Great Britain from the Restoration to the Accession of the House of Hanover"; and also employed his pen in vindicating the measures of government during the American war. He was afterward appointed agent to the nabob of Arcot, became a member of Parliament, and died Feb. 17, 1796.

Macpherson, James Birdseye, an American military officer; born in Sandusky, O., Nov. 14, 1828; was graduated at the United States Military Academy in 1853; entered service in the Civil War, and was chief engineer on the staff of General Grant in 1862; took command of the 17th Army Corps in 1863; in the same year defeated a portion of Gen. J. E. Johnston's army at Raymond and again at Jackson; was distinguished for brilliant services at Champion Hill and at Vicksburg, and was Commander of the Army of the Tennessee when he was killed at Atlanta, Ga., July 11, 1864.

Macready, William Charles, an English tragedian; born in London, England, March 3, 1793. In 1826 he made his first visit to America, and in 1828 played in Paris, with great success in both countries. He undertook the management of Drury Lane in 1842, but though he did much to reform the stage and cultivate the public taste for Shakespearean drama, his pecuniary losses required him to retire from managership. He revisited the United States in 1849; returned to England; gave a series of farewell performances, and finally retired from the stage in 1851. He died in Cheltenham, England, April 27, 1873.

Madagascar, a large island in the Indian Ocean, 230 miles from the E. coast of Africa, from which it is separated by Mozambique Channel; length, 975 miles; average breadth, 250 miles; area, about 228,500 square miles; population, about 3,500,000. The vegetable products grown for food include rice, manioc or cassava, sweet potatoes, ground nuts, and yams. Ginger, pepper, and indigo grow wild in the woods; cotton, sugar cane, coffee, tobacco, and hemp are cultivated. Coal is found in the N. W., rice, cattle, hides, gum, india-rubber, wax, cotton, sugar, vanilla, lard, and coffee are exported to Mauritius, Reunion, and Europe. Humped cattle are found in immense herds, and form a large part of the wealth of the inhabitants, as do also sheep, goats, swine, and horses. The inhabitants, called Malagasy, belong to the Malayo-Polynesian stock and speak a Malayan language. They appear to form a single race, though they are divided into numerous tribes, each having a distinctive name and customs. The Hovas are the ruling tribe, they having extended their sway over nearly the whole island, while the other chief tribes are the Betsimasarka, the Betsileo, and the Sakalava. The religion of the great bulk of the people is a kind of fetichism or worship of charms. Many of their superstitious customs have been abolished and Christianity adopted, chiefly by the Hovas. Capital, Antananarivo, a striking and well-built town; pop. about 70,000, on a lofty hill about 200 miles inland. The island was made a French colony, and General Gallien was appointed resident-general and commander-in-chief in September, 1896. His vigorous and determined policy made a great improvement in the condition of the country.

Madder, a trailing or climbing annual, supporting itself by its leaves and prickles. The roots, which are ready the third year, are kiln-dried

and then threshed, to clear them from earth and dust. They are then dried a second time, and afterward pounded and stamped in a mill. Is brought from Chile, South America, and India, and also from Holland, France, Italy and Turkey. The root is extensively used in dyeing for the production of a variety of colors, namely, red, pink, purple, black, and chocolate.

Madeira, a Portuguese island in the North Atlantic, 360 miles from the coast of Africa, 530 miles from Lisbon, length, 30 miles; breadth, 13 miles; area, 505 square miles; pop. (1900) 151,125. Adjacent to Madeira is Porto Santo, a small island, and the Desertas, which, with Madeira itself, compose the group of the Madeiras. The staple products of Madeira are wine and sugar. The climate is equable and the island is considered an excellent sanatorium for chest diseases. Capital and chief center of trade, Funchal; pop. 18,778. The Madeiras were known to the Romans, and were rediscovered and colonized by the Portuguese in 1431.

Madison, James, an American statesman, 4th President of the United States; born in Port Conway, Va., March 16, 1751. He was the oldest of a family of seven children. His early education was mostly under private tutors. In 1769 he entered Princeton College, graduating in 1771. He studied law, and afterward, with some idea of entering the ministry, theology. He first attracted public attention through his efforts, in company with Jefferson and George Mason to secure the religious rights of the dissenting sects in Virginia, as against the taxation and persecution to which they were subjected by the Anglican party. In 1776 he was elected to the convention that framed the Virginia constitution; in 1777 he was defeated for the Virginia Assembly, but appointed a member of the Executive Council; in 1780 entered the Continental Congress, where he served three years; and in 1784 was elected to the Virginia Legislature, where he advocated the abolition of the feudal system of entail and primogeniture, and the removal of the remaining hindrances to perfect religious freedom. In 1785 he urged a meeting of the States by delegates to perfect a common government, and was a member of the Constitutional Convention of 1787, and one of the chief framers of the Constitution of the United States. He advocated the adoption of it in some of the ablest papers of "The Federalist." He gradually parted political company with the Federal party and refused a seat in the cabinet and the mission to France in consequence of his inclination to adopt the principles of the Republican party. During Adams's adminstration he remained mostly in retirement. In 1794 he married a brilliant society woman, Mrs. Todd, who afterward proved socially helpful to him in public life. He opposed the Alien and Sedition Laws that were repealed somewhat through his influence. His writings produced to some extent the reaction against the Federalists that resulted in Jefferson's election, who at once (1801) made him Secretary of State, in which office he conducted the diplomatic affairs of government so ably as to make him Jefferson's successor. He was elected to the presidency in 1808. The principal events of his adminstrations concern the War of 1812 with Great Britain and the treaty by which it was concluded. He filled the office for two terms, retiring in 1817 to his estate. He served in his old age as rector of the University of Virginia, and as a member of the convention called to reform the Virginia constitution. He died in Montpelier, Va., June 28, 1836.

Madoc, son of Owen Gwynnedd, a Welsh prince, believed by his countrymen to have discovered America about 300 years before Columbus. Compelled, it is said, by civil strife, to abandon his native land, he sailed W. in 1170 with a small fleet, and, after a voyage of several weeks, reached a country whose productions and inhabitants were quite unlike those of Europe. Here he lived for a long time; then, returning to Wales, he gave an account of the new land that he had discovered, equipped another fleet, set sail again, and was never more heard of.

Madonna, a word originally used in Italy, like madame in France, as a title of honor and dignity, but now exclusively applied to the Virgin Mary, as in other languages she is called "Our Lady." It is also applied to a

number of celebrated pictures, in which the Virgin forms the sole or principal object.

Madoqua, a diminutive antelope about the size of a hare, common in Abyssinia. Legs short and slender; the males alone bear horns, which are short and conical.

Madras, Presidency of, with its dependencies and the State of Mysore, the entire S. of the peninsula of India, surrounded on every side except the N. by the sea; length, 950 miles, breadth 450 miles; area, 141,189 square miles; pop. (1901) 38,208,609.

Capital, Madras, situated on the E., or Coromandel coast of India, 885 miles S. W. of Calcutta, and 790 miles S. E. by rail of Bombay. Pop. 452,518.

Madrid, the capital of Spain and of the province of Madrid, a part of New Castile, situated near the heart of the country, on the left bank of the Manzanares, a sub-affluent of the Tagus, and on a hilly, sandy plateau, 2,200 feet above the sea. One of the handsomest of European cities, it has a very modern aspect, and is partly surrounded by a brick wall 20 feet high, and pierced by 16 gates, the most notable being the Puerta de Alcala (1759), a triumphal arch 72 feet high at the foot of the Calle de Alcala, a magnificent street that traverses the city from N. E. to S. W. The city is girt with fine promenades and stately suburban villas embowered in beautiful gardens.

The great building in Madrid is the Real Palacio, on the W. side, between the city and the river. It is a square, 470 feet on each side, and 100 feet high, built (1737–1750), of granite and white marble, inclosing a court 240 feet square, and containing a library of 100,000 volumes, an armory of 2,533 specimens, and a numismatic collection of 150,000 pieces. Madrid has also about 60 churches, 44 monasteries, used since 1836 for secular purposes, 24 nunneries, 24 hospitals (one with 1,526 beds), 14 barracks, 100 elementary schools, several colleges or higher schools, a university, a medical school, a conservatory of music, eight theaters, four public libraries, eight museums, a botanical garden, an observatory, an academy modeled on that of Paris, etc. The royal museum in the Prado contains a gallery of 1,833 pictures, one of the richest collections in the world.

The industries of Madrid are slight. The commerce, however, is important, as Madrid is the entrepot for all the interior provinces. Pop. 512,150.

Madrigal, in poetry, a little amorous poem sometimes also called a pastoral poem, containing some delicate and tender though simple thought, and consisting of not less than three or four stanzas or strophes.

Madstone, a stone which when applied to a wound caused by the bite of a mad dog is said to prevent hydrophobia.

Madura, a maritime district of India, in the S. of the presidency of Madras; area 8,401 square miles; pop. 2,608,404. Chief town is Madura, the third largest in the presidency; pop. 87,420.

Madura, an island of the Dutch East Indies, separated by a narrow strait from the N. E. of Java; area 1,764 square miles. It is mostly barren, but possesses numerous forests and salt marshes. Along with about 80 smaller islands, lying mostly to the E., it forms a Dutch residency; area, 2,040 square miles. Pop. 1,554,889.

Mæander, a river in Asia Minor, 200 miles long, which flows W. S. W. from Mount Aulocrene, in Phrygia, to the Ægean Sea, near Miletus. The proverbial windings of the Mæander made its name a synonym for a tortuous course.

Maecenas, Caius Cilnius, a man whose name is imperishably associated with the Augustan literature of Rome. His great glory was the happy influence that he exercised over the emperor as a patron of learning, and his own munificence and taste in the same direction.

Maelstrom ("grinding stream"), or Moskenstrom, a famous whirlpool between Moskenas and Mosken, two of the Lofoden Isles. The strait is habitually navigated by vessels at high and low tide, though in one place the water is always rough and churned into angry foam. When the wind blows directly against the current it becomes extremely dangerous, especially with spring tides or during a N. W. wind. The stories of ships, whales

etc., being swallowed up in the vortex are simply fables.

Maestricht, the capital of the Dutch province of Limburg, 19 miles N. N. E. of Liege, situated on the left bank of the Meuse. Maestricht's great sight is the subterranean quarries of the Pietersberg, formerly called Mons Hunnorum (Mount of the Huns, 330 feet). Their labyrinthine passages, 12 feet wide and 20 to 50 feet high, number 16,000, and extend over an area of 13 by 6 miles. They are supposed to have been worked first by the Romans. Pop. (1900) 34,182.

Mafia, The, a Sicilian secret society akin to the Camorra, in Naples. The Mafia, under one designation or another, runs back to the Middle Ages. It punished crimes against itself by death. Under the Bourbons its simplest form was brigandage and sequestration of the person, to be held to ransom, default of which implied death. Minor crimes are still somewhat protected by the organization, but the policy of the government has been one of steady legal pressure and change of venue to the Continent for the trial of the criminals, and this is gradually paralyzing the Mafia. This policy resulted in the emigration of large numbers of the Mafiosi to the S. States of the United States. In New Orleans the order became especially strong, and was responsible for many secret assassinations. In 1890 the chief of police, Captain Hennessy, determined to stamp out the Mafia, but was himself shot down in cold blood by emissaries of the society. The assassins were arrested and tried, but the jury disagreed, partly from fear of the vengeance of the Mafias. Thereupon the law-abiding citizens rose in a body, broke open the jail, and shot a number of the culprits there confined. As a consequence, some of them being Italian citizens, the government of Italy made demand on the United States for reparation, and the Italian minister at Washington was temporarily recalled. Crimes committed among the Italians in New York and other cities are often attributed to the Mafia.

Magazine Rifle, a rifle that contains within itself, presumably in or near the butt, a magazine or reservoir holding a limited number of cartridges, combined with a mechanical action which, by trigger pressure only performs all the functions of loading.

Magdala, a hill-fortress and small town of Abyssinia, 300 miles S. of Annesley Bay, on the Red Sea, perched on a plateau 9,110 feet above sea-level. It was the place of captivity of the British prisoners for whose rescue an expedition was sent out under Sir Robert Napier; and on April 13, 1868, the town was burned and its defenses destroyed.

Magdalena, the principal river of Colombia, rising in the Central Cordillera, lat. about 2° N., and only 8 miles from the source of the Cauca. These streams flow N. on either side of the Cordillera, uniting about 130 miles from the sea. The Magdalena's drainage area is calculated at 92,900 square miles.

Magdalen, or Magdalene, Mary, that is, Mary of Magdala, a woman mentioned in the New Testament, as having had seven devils cast out of her, as watching the crucifixion, and as having come early to the sepulcher on the resurrection morning. She was erroneously identified as the "woman who was a sinner" (Luke vii: 37), and hence the term Magdalen came to be equivalent to a penitent fallen woman.

Magdeburg, a German city, the capital of Prussian Saxony; situated on the Elbe river (which here forms several branches); 76 miles W. S. W. of Berlin.

Magdeburg ranks as a fortress of the first class, and is one of the strongest places in Europe. Its defensive works have been reconstructed since 1866, but the citadel is still of defensive value. As the capital of the province Magdeburg is the seat of a number of courts and public offices. There are electric and steam railroads. Magdeburg is a place of great antiquity, and is mentioned in records in the 8th century. It early distinguished itself in the Reformation and long exerted a powerful influence in its favor. In 1631, after a siege in which it valiantly defended itself, it was taken by storm and given up to indiscriminate massacre by the brutal Tilly, when over 20,000 people were killed. Pop. (1900) 229,663.

Magellan, the incorrect but generally received name of **Magalhaens, Ferdinand,** a celebrated Portuguese navigator; born in Saboroso, Portugal, about 1480. In 1520 he discovered and passed the straits which have since been called by his name and was the first to circumnavigate the world. He was slain in a skirmish with the natives on Mactan, one of the Philippine Islands, April 27, 1521.

Magellan, Strait of, a sea-passage separating South America on the S. from Tierra del Fuego; length 375 miles, breadth from 12 to 17 miles. It was discovered by Magellan in 1520, and first thoroughly explored by King and Fitzroy in the "Adventure" and "Beagle" (1826–1836).

Magendie, Francois, a French physiologist and physician; born in Bordeaux, France, Oct. 15, 1783. He made important additions to the knowledge of nerve-physiology, the veins, and the physiology of food, and wrote numerous works. He died in Paris, France, Oct. 7, 1855.

Magenta, an Italian town, 18 miles W. of Milan. Here, on June 4, 1859, 55,000 French and Sardinians defeated 75,000 Austrians, the latter losing 10,000 (besides 7,000 prisoners), and the allies only 4,000. For this victory Macmahon received his dukedom.

Maggiore, Lago, one of the largest lakes in Italy, the Lacus Verbanus of the Romans, situated for the most part in Italy, but also partly in the Swiss canton of Ticino; length 39 miles, breadth from ½ mile to 5½ miles; 646 feet above sea-level, with a maximum depth of 1,158 feet.

Magi, a sect of priests among the ancient Medes and Persians. They formed one of the six tribes into which the Medes were originally divided, and on the downfall of the Median empire they continued to retain a great degree of power and authority with the conquerors, being the recognized ministers of the national religion. The great apostle of their religion was Zoroaster. They were so celebrated for their enchantments, that they have given name to the art of magic or enchantment.

Magic, the art or pretended art of putting in action the power of spirits; the science or art of producing preternatural effects by the medium of supernatural means, or the aid of departed spirits, or the occult powers of nature. A belief in magic is to be reckoned among the earliest growths of human thought. It is everywhere present, in a greater or less degree, in an inverse ratio to the progress of civilization.

Magic Lantern, an instrument by which the images of objects, usually, but not always, transparent, and paintings or diagrams drawn on glass are exhibited, considerably magnified, on a wall or screen.

Magill, Mary Tucker, an American writer; born in Jefferson co., Va., Aug. 21, 1832. After the Civil War she conducted Angerona College for Girls, at Winchester, Va. She died near Richmond, Va., April 20, 1889.

Magna Charta, or **Magna Carta,** originally the Great Charter of the liberties of England signed and sealed by King John at the demand of his barons, at Runnymede, on June 19, 1215. It was several times confirmed by his successors.

Magna Graecia, or **Major Graecia,** in ancient history, the name applied by Greek writers to their colonies formed on the S. shores of Italy.

Magnesia, in mineralogy, the same as periclase. Used as a drug.

Magnesium, in chemistry, a diatomic metallic element. It is a brilliant metal, almost as white as silver, and preserves its luster in dry air. It is more brittle than silver at ordinary temperature; but at a higher temperature it becomes malleable and may be pressed into the form of wire or ribbon.

Magnetism, the science which treats of the phenomena exhibited by magnets — phenomena due to one of those forces which, like electricity and heat, are known only by their effects. The phenomena of magnetism were first observed in the loadstone or magnet. The loadstone is magnetic iron ore, found in many parts of the world, especially in the Scandinavian peninsula and in Siberia. It has the power of attracting small pieces of iron and steel. A piece of loadstone forms a natural magnet, and has the

further remarkable power of giving all its own properties to hard iron or steel when these bodies are rubbed by it. A bar or mass of iron or steel to which the peculiar properties of a natural magnet have been imparted by friction from other magnets or by electric induction is called an artificial magnet. When freely suspended, all magnets, natural and artificial, rest with their lengths in a N. and S. direction, and this property is utilized in the compass. They attract iron and other magnetic substances with a force increasing from the middle of the magnet to its extremities, which are called its poles. The magnetism at the two poles is different, that pole which points to the N. is distinguished as the north by the sign plus (+); that which points to the S. as the south pole, by the sign minus (—). The poles of the same denomination repel each other, while those of different names have mutual attraction.

Magnetism pervades the earth as electricity does the atmosphere. It assumes a totally different form in different substances; the metals iron, nickel, and cobalt being strongly attracted by the magnet; others such as bismuth, copper, silver, gold, etc., being as strongly repelled. The space in the neighborhood of a magnet is called the magnetic field; a piece of soft iron brought into this space becomes magnetic, but it loses its magnetism as rapidly on removal from the field. Steel has coercive force, in virtue of which it requires time for magnetization, and retains its magnetism on removal from the field. Hard steel may be made magnetic by rubbing it several times in the same direction with a powerful magnet. The most powerful permanent magnets are produced by rubbing bars of steel on electro-magnets, or by moving them backward along the axis of a coil of wire in which an electric current is passing. When a magnet is broken into a number of pieces each piece is found to be magnetic, and its N. pole is found to have been directed toward the N. pole of the unbroken magnet. When these pieces are put together again, poles placed in contact nullify each other, and the original magnet is reproduced.

Terrestrial magnetism, which pervades the whole earth, is extremely complicated. It becomes manifest by its influence on the magnetic needle, varying with the time and place over the earth. One pole of the needle points toward the N., the other toward the S. There are, however, only two lines on the surface of the earth, on which it points directly N. and S., and where the magnetic and geographical meridians appear to coincide. Elsewhere the needle deviates more or less from the true N.

Magneto-Electricity, the science which treats of the production of electricity by means of a magnet. It was discovered by Faraday in 1831.

Magnitude, in astronomy, a term applied to the apparent size of stars viewed from the earth. In geometry, the term was originally applied to signify the space occupied by a body. As thus used, it applied only to those portions of space which possessed the three attributes of extension — length, breadth, and thickness, or height. By extension of meaning it has come to signify anything that can be increased, diminished, and measured.

Magnolia, a tree or shrub named after Pierre Magnol (1638–1715), Professor of Medicine at Montpellier, and author of several botanical works. They have large, terminal, odoriferous flowers, and are found in North America and Asia. The great-flowered magnolia, or laurel bay, is a fine evergreen tree, 70 feet high found in America. The species have large, beautiful, fragrant flowers.

Magoon, Elias Lyman, an American clergyman and author; born in Lebanon, N. H., Oct. 20, 1810. He died in Philadelphia, Pa., Nov. 25, 1886.

Magpie, an extremely beautiful bird, the pure white of its scapulars and inner web of the flight feathers contrasting vividly with the deep glossy black of the body and wings, while the long tail is lustrous with green, bronze, and purple reflections. It builds an almost impregnable nest, with a dome of firmly-interwoven sticks, and lays from six to nine bluish-green eggs, blotched with ash-color.

Magruder, John Bankhead, an American military officer; born in Winchester co., Va., Aug. 15, 1810. He was graduated at the United States Military Academy; served in the Mexican War; at the outbreak of the Civil War entered the Confederate army; afterward served under the Emperor Maximilian, of Mexico, and died in Houston, Tex., Feb. 19, 1871.

Magruder, Julia, an American prose-writer; born in Charlottesville, Va., Sept. 14, 1854.

Mahabharata, one of the two great epic poems of India, the other being the Ramayana.

Mahaffy, John Pentland, an Irish educator; born in Switzerland in 1839. He was educated in Germany and at Trinity College, Dublin, being graduated in 1859. He is noted for a wide range of scholarship, and was a frequent contributor to periodicals and published books on many subjects.

Mahan, Alfred Thayer, an American naval officer and writer; born in West Point, N. Y., Sept. 27, 1840; was graduated at the United States Naval Academy in 1859; served in the Civil War; was president of the Naval War College, Newport, in 1886–1889 and 1890–1893; visited Europe in command of the "Chicago" in 1893, receiving many honors, among them degrees from both Oxford and Cambridge. He was retired at his own request Nov. 17, 1896. During the war with Spain he was a member of the Naval Board of Strategy; and in 1899 was appointed by President McKinley as one of the American delegates to the Universal Peace Conference at The Hague. His chief work "Influence of Sea Power upon History," with its continuation, "Influence of Sea Power upon the French Revolution and Empire," gave him a world-wide reputation.

Mahan, Asa, an American clergyman and educator; born in Vernon, N. Y., Nov. 9, 1800. He was president of Oberlin College, 1838–1850; of Cleveland University, 1850–1856; of Adrian College, Mich., 1860–1871. He died in Eastbourne, England, April 4, 1889.

Maharajah (literally, a great king), a title applied in courtesy to every Indian rajah, or to any person of high rank or deemed holy.

Mahatma, a word meaning "the great-souled one," and applied among the Brahmans to one who has attained the highest possible point of spiritual enlightenment.

Mahdi, Mahdee or **Muhdee,** in Mohammedan theology, the surname of a second Mohammed, the last or 12th Imaum. According to the Shiahs (Mohammedan Scripturalists) of Persia, he is now alive in the unseen world, and will appear with Elias the Prophet at the second coming of Jesus Christ. Mohammed Ali, governor of Egypt, commenced, about the year 1821, the conquest of the Sudan, which was completed about a half century later by General Gordon. On his departure the incapacity of his Egyptian successors drove the Sudanese into revolt. At first the rebellion was political, but a religious element arose and asserted its predominance. An individual gave out that he was the divinely-promised Mahdi, come for the deliverance of the faithful. A military revolt, headed by an Egyptian, Arabi Pasha, had been attended by the massacre of many European Christians at Alexandria, and the British fleet had been sent out to prevent a fresh outbreak, New forts being built to threaten the ships, the fleet captured them on July 11, 1882, while an army defeated the Egyptians in a short but very bloody fight at Tel-el-Kebir, on Sept. 13. The British government advised Egypt to give up all attempts to reconquer the Sudan. The advice was neglected, an Egyptian army, headed by an Englishman, Hicks Pasha, was sent out, but was destroyed and its leader killed. A second, under Baker Pasha, was put to flight with great slaughter on Feb. 4, 1884.

The Egyptians were now willing to let the Sudan go. But the Sudanese, not contented to obtain their independence, sought to massacre the Egyptian garrisons of about 20,000 men. General Gordon went to Egypt to oppose this, but failed in his endeavor, and after defending himself in Khartum for about a year, was overcome by treachery on Jan. 26,

1885, and Gordon and many others slain, just as a relieving army was approaching for his deliverance. The Sudan was lost. Twelve years later it was reconquered by the British. The Mahdi had died in the meantime and been succeeded by Khalifa Abdulla. On Sept. 2, 1898, General Kitchener with an Anglo-Egyptian army defeated the hosts of the Mahdi and captured Omdurman, Khalifa Abdulla's capital and stronghold, thus ending Mahdist rule in the Sudan.

Mahmud, Sultan of Ghazna, the founder of the Mohammedan empire in India; born in Ghazna, Afghanistan, about 970. His father, Sabaktagin, governor of Ghanza, owned a nominal allegiance to Persia, but was really independent. On his death Mahmud put aside his elder brother; formed an alliance against the Persian monarch, overthrew his kingdom and laid the foundation of an extensive empire in Central Asia (999). He then turned his attention to India, and in a series of 12 invasions secured a great amount of treasure and vastly extended his power. He was a patron of literature, and brought many men of learning about his court. He died in Ghazna in 1030.

Mahogany, the wood of a lofty and beautiful tree of Central America and the West Indies. Its wood is close-grained, hard, susceptible of a fine polish, and has been largely used for the manufacture of household furniture.

Mahone, William, an American legislator; born in Southampton co., Va., Dec. 1, 1826; was graduated at the Virginia Military Institute in 1847, and became an engineer and constructor. When the Civil War broke out he entered the Confederate army; recruited and commanded the 6th Virginia Regiment. He was the organizer and leader of the Readjuster Perry, which had for its policy the conditional repudiation of the Virginia State debt; and was a United States Senator in 1880–1887. He died in Washington, D. C., Oct. 8, 1895.

Mahony, Francis, known as Father Prout, an Irish journalist and poet; born in Cork, Ireland, in 1804; died in Paris, France, May 18, 1866.

Mahrattas, Marathas, or **Marhatas,** a people of mixed origin, Hindus in religion and caste ordinances, inhabiting Western and Central India, from the Satpura Mountains to Nagpur.

Maidenhair, a beautiful fern found in the United States, continental Europe, Asia, Africa, and Polynesia.

Maid of Norway, Margaret, the daughter of Eric, King of Norway, and Margaret, the daughter of Alexander III. of Scotland. On the death of Alexander she was acknowledged Queen of Scotland, and was betrothed to Edward, son of Edward I. of England, but died on her passage to England in 1290.

Maigre, in ordinary language, a fast. In ichthyology, a fish common in the Mediterranean. Length seldom less than three, and sometimes as much as six feet. It is highly esteemed for the table.

Maimonides, Moses, a Jewish philosopher; born in Cordova, Spain, March 30, 1135. He harmonized Judaism and philosophy. Driven with his family from Spain, he resided in Fez; then traveled by way of Palestine to Cairo, becoming there chief rabbi and the caliph's physician. His chief work, written in Hebrew, is "Mishneh Torah" (Repetition of the law: 1170–1180), a masterly exposition of the whole of the Jewish law as contained in the Pentateuch and the voluminous Talmudic literature. He died in Cairo, Egypt, Dec. 13, 1204.

Main, a river of Germany; rises in the Fichtelgebirge; flows in a generally W. direction for a distance of 300 miles; and joins the Rhine a little above the town of Mainz. It is navigable for about 200 miles, and has been improved so as to admit the largest Rhine steamers to Frankfort. By means of King Ludwig's canal it affords through navigation to the Danube.

Maine, a State of the North Atlantic Division of the North American Union; admitted to the Union, March 15, 1820; number of counties, 16; area, 29,395 square miles; pop. (1900) 694,466; capital, Augusta.

The surface of the State is as a rule hilly and mountainous, except-

ing along the coast, where it is flat and sometimes marshy. The main mountain system crosses the State in a N. E. direction from the White Mountains, past Mount Katahdin and Mount Abraham to Mars Hill near St. John river. The highest elevation is Mount Katahdin, in the center of the State, 5,383 feet. The coast line is very irregular, and, with its numerous indentations, presents a length of over 2,000 miles. The sea coast E. of the Kennebec rises abruptly to a height of from 1,000 to 2,800 feet, while the W. portion consists of swamps and sand flats, extending 10 to 20 miles inland. The rivers rise in the mountains at the N. of the State and in Canada and New Hampshire and flow rapidly and with numerous falls and rapids to the sea, affording excellent water power. The principal ones are the St. John, forming most of the Canadian boundary; the Penobscot, Kennebec, and Androscoggin, rising in the N. and central portions of the State, and flowing into the Atlantic. Maine has over 1,500 lakes. Moosehead Lake, the largest, is 35 miles long, 10 miles wide, and 1,023 feet above sea-level. Rangeley and Richardson lakes in the E. have an altitude of 1,500 feet.

The State is well supplied with minerals, especially in the N. E. counties. In building and monumental stones Maine is especially rich. The metallic products have not been worked to any extent, but consist of iron, tin, lead, copper, zinc and manganese. Gold occurs in small deposits, and tourmaline, beryl, and garnet are also found.

The State presents a great variety of soil. That on the sea coast and mountain lands is sterile and does not repay cultivation. The soil in the river valleys between the Penobscot and Kennebec is of alluvial formation and exceedingly valuable for cereals. The great valley of the Aroostook contains the most fertile lands E. of the Mississippi valley. The upland is the best for grazing and the clay loam for hay. The forests of the State are of great value. In the N. the trees are principally pine, fir, spruce, hemlock, and other evergreens, with cedars in the N. E. In the central portion of the State the white and red oak, maple, beech, birch, and ash, are abundant, while further S. the poplar, elm, basswood, dogwood, sassafras, juniper, butterwood, butternut, chestnut, alder, and willow abound.

The most productive parts of Maine are the river valleys. The farm and garden fruits and vegetables are abundant. The principal farm crops are hay, potatoes, oats, buckwheat, corn, barley, wheat, and rye. The principal manufactures are cotton goods, lumber and timber products, woolen goods, paper and wood pulp, canned fish, foundry and machine shop products, and flour and grist mill products.

In 1900 the school population was 161,600; enrollment in public schools 131,588; and average daily attendance 97,706. For higher education there are 200 public high schools; 40 private secondary schools; 5 public and 2 private normal schools.

The strongest denominations in the State are the Roman Catholic; Congregational; Methodist Episcopal; Regular Baptist; Freewill Baptist; Advent Christians; Protestant Episcopal; and Universalist.

The governor is elected for a term of two years and receives a salary of $2,000 per annum. Legislative sessions are held biennially, beginning on the first Wednesday in January, and have no time limit. The Legislature has 31 members in the Senate and 151 in the House, each of whom receives $150 per annum and mileage. There are four representatives in Congress. The State government in 1901 was Republican.

The territory between the Kennebec and Penobscot rivers was granted by Charles II., in 1664, to his brother the Duke of York, who had the year before established a seat of government there at the city of Pemaquid, where a strong fort was built. This country was surrendered to Massachusetts in 1686, which took possession, exercised government over it as far E. as Penobscot, which, with all the territory E. to the St. Croix and Nova Scotia, was confirmed to her by the provisional charter of 1691. She afterward relinquished Nova Scotia, but all the remainder was secured to her by the treaty of 1783, which established the

independence of the United States, and she retained possession and jurisdiction till the separation of 1820 took place, which constituted Maine a separate State.

Maine, The, a second-class, twin-screw battleship of the United States navy, destroyed in the harbor of Havana on the evening of Feb. 15, 1898. She was of 6,648 tons displacement; her length was 318 feet; breadth, 57 feet; mean draft, 21 feet 6 inches; main battery, four 10-inch and six 6-inch breech-loading rifles; secondary battery, seven 6-pounder and eight 1-pounder rapid-fire guns, and four Gatlings; crew, 34 officers and 370 men; cost, $2,500,000.

Maine, The, the new vessel of this name, built for the United States navy, a first-class battleship of over 12,000 tons displacement. Its main battery consists of four 12-inch, and ten 6-inch guns, and its speed is 18 knots an hour. The new "Maine" has underwater torpedo tubes, the first ever put in any ship in the American navy. It has very little woodwork and what there is has been treated by a process which renders it absolutely incombustible. Its comparatively shallow draft will enable it to maneuver in waters where other ships of the same fighting power would be aground. It is protected by 10-inch plates of the new "Kruppized" armor.

Maine, University of, a coeducational non-sectarian institution in Orono, Me.; founded in 1865.

Maine-et-Loire, a department of France, watered by the rivers whose names it bears; area, 2,749 square miles; pop. (1901) 513,208; capital, Angers.

Maine Liquor Law, a law of the State of Maine vesting the sale of intoxicating liquors in special agents appointed by the State, and prohibiting all other persons from such sale. The manufacture of intoxicating liquor for unlawful sale is also forbidden. Any one injured by an intoxicated person may maintain an action against the seller of the liquor, and the owner or lessee of the building in which the liquor was sold is jointly liable if cognizant that the building was used for such purpose.

Maintenon, Francoise d'Aubigne, Marchioness de, born in Niort, France, Nov. 27, 1635. She was first the mistress, and later the second wife of King Louis XIV. of France; she died April 15, 1719.

Mainz (English, Mentz; French, Mayence), a fortified town of Germany, in the grand-duchy of Hesse, finely situated on the left bank of the Rhine, opposite the mouth of the Main, 20 miles W. S. W. of Frankfort. Its history during the 16th century is of considerable interest in connection with the progress of the Reformation. Pop. (1900) 84,251.

Mair, Charles, a Canadian poet; born in Lanark, Ontario, Sept. 21, 1840; was educated at Queen's University, Kingston; participated in the Riel rebellion and the second rebellion in the Northwest Territories.

Maistre, Count Xavier de, a French soldier and writer; born in Chambery, Savoy, in October, 1764. After serving in Piedmont and Italy, going to Russia, he rose to the rank of Major-General. His masterpiece was the much admired "Journey Round My Room," written while under arrest for fighting a duel. He died in St. Petersburg, Russia, June 12, 1852.

Maitland, William, commonly known as Secretary Lethington, a Scotch statesman, eldest son of Sir Richard Maitland; born about 1525. He early adopted the reformed doctrines, and was one of the first public men openly to renounce the mass. In 1558 he was appointed secretary of state by Mary of Guise. In 1560 he was the speaker of the Parliament which abolished the authority of the Pope in Scotland. On Queen Mary's arrival in Scotland he was chosen one of her principal ministers. After Darnley's murder he conspired to effect Mary's escape from Lochleven; yet he attended the coronation of James VI. and fought against her at Langside. The regent Moray had him arrested in 1569 as an accessory to Darnley's murder. He was set at liberty, and after the assassination of Moray he became the life and soul of the queen's party. In 1571 he joined Kirkcaldy in Edinburgh Castle; was proclaimed a traitor by the Parliament, and attainted with his two brothers. On the surrender

of Edinburgh Castle, Kirkcaldy and his brother were hanged, but Maitland died in prison in Leith, presumably by his own hand, June 9, 1573.

Majesty, a title of honor now usually bestowed on sovereigns. Among the Romans, majestas was used to signify the power and dignity of the people, and after the overthrow of the republic became exclusively the attribute of the emperors.

Majolica (from the Italian name of the island of Majorca, where this ware seems to have been first made), a decorated kind of enameled pottery made in Italy from the 15th to the 18th century.

Major, in the army, a field officer next in rank above a captain and below a lieutenant-colonel.

Majorca or **Mallorca,** the largest of the Balearic Isles, lying about 100 miles from the Spanish coast and 150 N. of Algiers; length, 60 miles; breadth, 40 miles; area, 1,310 square miles; pop. about 235,000.

Majority, in law, the period of full age, at which the laws of a country permit a young person to manage his own affairs. In the United States, as well as in most other countries, the age of majority is 21 years.

Majuba Hill, an eminence in the extreme N. of Natal, the scene of the defeat of 648 British troops, with the loss of their leader, Sir George Colley, by a greatly superior force of Transvaal Boers, Feb. 27, 1881. The night before, after an eight hours' climb, they had occupied the hill, which overlooked the enemy's position at Laing's Nek, and which toward noon was unexpectedly carried by a sudden rush of the Boers. The loss of the latter was about 130, of the British more than 200 in killed and prisoners, besides many wounded and some missing. To the British nation the name Majuba Hill became a synonym for disaster. The anniversary of this fight was marked by the success of Lord Roberts, in the campaign of 1900, when he received the surrender of the Boer commander, General Cronje.

Makemie, Francis, founder of the Presbyterian Church in the United States; born in Ireland in 1658; was licensed by the Presbytery of Laggan in 1681, and went to Barbadoes; removed to Maryland, where, in 1684, he organized a church at Snow Hill. He married a lady of Virginia and itinerated through the Southern States. In 1704 he visited England and brought over two more ministers. He assisted in forming the Presbytery of Philadelphia and was its moderator in 1706. He died in 1708.

Makololos, a tribe of Basutos, who, under their chief, Sebituane, and his son Sekeletu, founded an extensive kingdom in the basin of the Upper Zambesi. A successful rebellion by the conquered tribes broke up the kingdom in 1864.

Malacca, Strait of, a channel separating the Malay Peninsula on the N. E. from the island of Sumatra on the S. W., and connecting the Indian Ocean with the Chinese Sea; length, 480 miles; breadth, from 30 miles at the S. E. to 115 miles at the N. W. extremity.

Malachi, the last of the Old Testament minor prophets. Of his history nothing is certainly known. The Prophecies of Malachi, the last prophetic book of the Old Testament. When it was penned, the Jewish people were under a governor instead of a king, and the Temple was rebuilt. The governor was probably Nehemiah, during his second visit to Jerusalem. In Malachi's time religion was at a low ebb. With absence of piety came low morality. The prophet encouraged a small remnant who had remained faithful. He predicted the rise of "the Sun of righteousness," the advent of Jehovah to His Temple, a "messenger," "Elijah the prophet" preparing His way. The Hebrew style of the book is argumentative rather than poetical. Its canonical authority has never been doubted.

Malachite, a monoclinic mineral found with other copper ores extensively distributed, in great abundance in the Ural Mountains, Russia, also in South Africa and Australia.

Malaga, a sea-port town of Spain, capital of the province of the same name, situated on the Mediterranean, 68 miles N. E. of Gibraltar, and 254 S. W. of Madrid; is commanded by an old Moorish fortress, called the Gibralfaro, and is of circular form, surrounded by a double wall, with a

number of stately towers; the city is of Moorish construction. The harbor of Malaga is capable of containing about 450 merchant vessels. A fine mole, of 700 yards in length, runs out into the sea, and two smaller ones have been subsequently built. Pop. 125,579.

Malaria, a morbid poison usually due to microbes generated by the decomposition of animal or vegetable matter under certain conditions of heat and moisture.

Malarial Fever, a fever produced by malaria. There are several forms of this disease, all produced by the same poison and all influenced by the same line of treatment.

Malayan Bear, a bear found in the Malayan Archipelago, Borneo, Sumatra, and Java. It is about 4½ feet in length; the fur is black, fading into brown on the nose. The chest bears a crescentic white mark; the Bornean variety has an orange-colored, heart-shaped patch. It usually feeds on grains and fruits, and is very fond of honey.

Malay Archipelago, Indian Archipelago, Asiatic Archipelago, or **Eastern Archipelago,** the great group of islands situated to the S. E. of Asia, and washed on the W. by the Indian and E. by the Pacific Ocean. Within these limits lie some of the largest and finest islands in the world, as Borneo, Sumatra, Java, Celebes, the Philippines, etc. The small islands may be truly called innumerable. The islands are generally fertile and covered with a luxuriant vegetation, and they produce all kinds of tropical products in abundance.

Malays, a people inhabiting the Malay Peninsula and the Eastern or Malay Archipelago, or collectively Malaysia. They are of Mongolian affinity. This enterprising race has made its way widely over the Pacific islands, reaching as far S. as Madagascar, where they exist as the dominant Hova element of the population. This widespread dominion is due to their bold, enterprising, and roving disposition, their place of residence on the peninsula and the larger islands being the coast region, whence they have driven the natives into the interior and where they long pursued a piratical career, darting from hidden streams in their well-manned proas on any vessel that approached too near the coast, or more boldly lying in wait in fleets in the open sea, for any expected rich prize. Physically considered, the Malays are of low stature. In various respects they bear a close resemblance to the Mongolians of Eastern Asia, but differ from them radically in language. Of late years the lessons taught them by European naval vessels have forced the Malays to desist from piracy. Intellectually they seem at a low level, and have never developed a native literature, such civilization as they possess being due to Arab and Hindu influence.

Malcolm, the name of various Scotch rulers. Malcolm III., surnamed Canmore (Great Head); born about 1024. After the murder of his father, Duncan, by Macbeth, he sought aid from Siward of Northumbria, and his cause was also espoused by Edward the Confessor. On the defeat and death of Macbeth he was crowned at Scone in 1058. In 1068 he granted asylum to Edgar Atheling, his mother, and two sisters (one of whom, Margaret, he married in 1070), with a number of Saxon exiles. His reign, which was mostly taken up with wars with England, had nevertheless an important bearing on the civilization and consolidation of Scotland.

Maldive Islands, a chain of 17 coral islets (atolls) in the Indian Ocean, about 300 miles from the S. E. coast of Hindustan, and 500 miles W. of Ceylon. Pop. estimated about 30,000 Mohammedans. The principal island is Mali, about 5 miles in circumference. It is the residence of the Sultan, who pays an annual tribute to the British government.

Malesherbes, Chretien Guillaume de Lamoignon de, a French statesman; born in Paris, France, Dec. 6, 1721. He succeeded his father as president of the Court of Aids, besides which he had the superintendence of the press. In 1771, on the abolition of the Parliaments, he was banished to his country-seat, but was recalled three years afterward, reinstated as president, and made minister of state, which post he soon resigned, and then went to Switzerland. In 1787 he was again called to the councils of his sovereign, Louis XVI.; but his advice

was rejected, and he retired to his country-house, where he employed himself in agricultural pursuits. He, however, hastened, of his own accord, to plead the cause of his sovereign, in 1792; and he was one of the last who took leave of him before his execution. Shortly after his return home, his daughter, Madame de Rosambo, and her husband were arrested and conducted to Paris; and his own arrest, with that of his grandchildren, soon followed. Almost his whole family were extirpated by the merciless proscription of his persecutors. Malesherbes was beheaded in Paris, April 22, 1792.

Malet, Sir Edward Baldwin, an English diplomatist; born in The Hague, Holland, Oct. 10, 1837; was educated at Eton and at Corpus Christi Colleges, Oxford; was employed in the diplomatic service at Washington, Paris, Peking, Athens, and Rome. In April, 1878, he was appointed minister plenipotentiary at Constantinople, and in the following year agent-consul-general and minister plenipotentiary to Egypt. He was ambassador to Germany in 1884–1895, and in the latter year was retired on a pension.

Malibran, Maria Felicita, a mezzo-soprano singer; born in Paris, France, March 24, 1808. She was the daughter of Manuel Garcia, a Spanish singer and teacher of singing. She made her debut in London in 1825, and soon her reputation extended over Europe. Her father attempted to establish the Italian opera in New York, but without success. She married M. Malibran, a French merchant there who soon became bankrupt; she then returned to the stage, and was received with great enthusiasm in France, England, Germany, and Italy. Her first marriage having been dissolved, she married M. Beriot, a famous violinist, in 1836. She was one of the greatest of operatic singers. She died in Manchester, England, Sept. 23, 1836.

Malice, in law, a premeditated or formed design to do mischief or injury to another, called also "malice prepense" or "aforethought."

Mallery, Garrick, an American ethnologist; born in Wilkesbarre, Pa., April 23, 1831; was graduated at Yale (1850); became a lawyer; on the outbreak of the Civil War, went to the front, and rose through the various grades to that of lieutenant-colonel. He died in Washington, D. C., Oct. 24, 1894.

Mallock, William Hurrell, an English author; born in Devonshire, England, in 1849. He was educated by a private tutor, and afterward at Oxford, where, in 1871, he gained the Newdigate Prize Poem. He never entered a profession though at one time he contemplated the diplomatic service. He has written "Prosperity and Progress"; "Labor and the Popular Welfare"; etc.

Mallow, a genus of plants. The common mallow is a perennial, with rather large bluish-red flowers on erect stalks. The dwarf mallow has smaller, whitish or reddish-white flowers. These two plants have a mucilaginous and somewhat bitter taste. The musk mallow has a faint musk-like smell. The marsh mallow belongs to another genus.

Malojaroslavetz, a town of Russia, province of Kaluga. It is noted as the scene of the most sanguinary battle in 1812, between the French army under Napoleon I. and the Russians, in which the latter were defeated.

Malpighi, Marcello, an Italian physician and anatomist; born in Crevalenore, Italy, March 10, 1628. He was Professor of Medicine at Bologna and Pisa, and became first physician to Pope Innocent XII. in 1691. His discoveries in anatomy were considerable, particularly respecting the structure of the skin and the secreting glands. He died in Rome, Nov. 29, 1694.

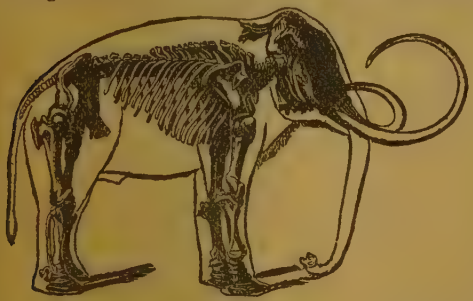
Malta (anciently Melita), an island in the Mediterranean belonging to Great Britain; 62 miles S. S. W. of Sicily, and 197 miles N. of Africa; length 17 miles; central breadth, about 9 miles; area, 95 square miles, to which the adjoining islands of Gozo and Comino add 24; pop. 180,328. The climate is very hot in summer, but pleasant and healthy in winter, attracting many visitors at this season.

Malte-Brun, Conrad, a Danish geographer; born in Thisted, Jutland, Aug. 12, 1775. After studying theology a short time at the University of Copenhagen, he devoted himself to lit-

erature and politics. He was banished to Sweden in 1796. After having resided for a time at Stockholm, he went to Paris, where he soon acquired a great reputation as a geographer. He wrote "Summary of Universal Geography" the first volume of which appeared in 1810, and the last after his death, in 1829. He died in Paris, Dec. 14, 1826.

Maltese Dog, a small variety of spaniel, with long, silky hair, most frequently white; the muzzle is round.

Maltese Cross, a cross formed of four arrow-heads meeting at the points; the badge of the Knights of Malta. This form of cross is the emblem of the order known as "King's Daughters."



SKELETON OF THE MAMMOTH.

Malthus, Thomas Robert, an English political economist; born in Albury, Surrey, England, Feb. 14, 1766. The Malthusian system is founded on the hypothesis that population increases in a geometrical, while provisions only increase in an arithmetical ratio. It proposes to remedy or alleviate the consequent evils and miseries of poverty by a preventive check—the normal restraint on marriage, dictated by reason and reflection, and adhered to by deliberate and benevolent choice. He died in Bath, Dec. 29, 1834.

Malting, a process by which barley, wheat, rye, or any other description of grain is converted into malt.

Malvern Hill, an eminence near the James river, S. E. of Richmond, Va. Here, on July 1, 1862, the Confederates, under Lee, were defeated by the Union army under McClellan.

Mammalia, the highest class of the Vertebrata and the animal kingdom, including those animals we familiarly term quadrupeds, the whales, dolphins, and other fish-like forms, and man himself. The characters which separate the mammals primarily from other Vertebrata, and from all other animals, may be summed up in the definition that they are vertebrate animals possessing a typical body covering of hairs, and which nourish the young for a longer or shorter period.

Mammon, the Syrian god of riches, The word is now held to be a mere personification of riches. It is used in this latter sense in Matt. vi: 24, and Luke xvi: 9. Milton poetically makes Mammon a fallen angel of sordid character.

Mammoth, a gigantic prehistoric mammal. The first mammoth discovered was found imbedded in ice in 1799 on the shores of the Lena, by a Tungoosian fisherman named Schumachoff. A Russian engineer, named Benkendorf, thus describes a mammoth unearthed from the tundra in the N. of Siberia:

> "Picture to yourself an elephant, with a body covered with a thick fur, about 13 feet in height, and 15 in length, with tusks 8 feet long, thick, and curving outward at their ends, a stout trunk of 6 feet in length, colossal limbs 1½ feet in thickness, and a tail naked to the end, which was covered with thick tufty hair. His parchment-like large naked ears lay fearfully turned up over the head; about the shoulders and back he had stiff hair, about a foot in length like a mane. . . . Under the outer hair there appeared everywhere a wool, very soft, warm, and thick, and of a yellow-brown color. As compared with Indian elephants, the head was rough, the brain case low and narrow, but the trunk and mouth were large."

In 1903 the perfect body of a mammoth, including bones, flesh, skin and hair, just as it had been frozen in the ice thousands of years ago, was, with great difficulty, rescued from its icy bed in Siberia and transported to the Imperial Museum at St. Petersburg, where it is fully mounted and on exhibition.

Mammoth Cave, a cavern near Green river, Edmonson co., Ky., about

85 miles S. S. W. of Louisville. The cave is about 10 miles long, but it requires upward of 150 miles of traveling to explore its multitudinous avenues, chambers, grottoes, rivers, and cataracts. The main cave is 4 miles long, from 40 to 300 feet wide, and rises in height to 125 feet. The most interesting features of the cave are: The Chief City or Temple, covering an area of about four acres and having a dome of solid rock 120 feet high; the Star Chamber, about 500 feet long by 70 feet wide, with a ceiling 70 feet high, consisting of black gypsum dotted with many white points which, when the chamber is lighted, have all the appearance of stars; Silliman's avenue, 1½ miles long, 20 to 200 feet wide, and 20 to 40 feet high; Cleveland's Cabinet, an arch 50 feet wide, 10 feet high and 2 miles long, covered with a variety of formations; the Maelstrom Abyss and Bottomless Pit, each of which is 20 feet wide and about 175 feet deep; and the river Styx, 450 feet long and crossed by a natural bridge about 30 feet high. The cave contains various kinds of animals, and there are also found lizards, crickets, frogs, bats, and different sorts of fish. The latter include the famous eyeless fish, which are white in color. The atmosphere is pure and healthful and there is a temperature throughout the year of about 59°.

Man, a collective term for the human species. Since the middle of the 19th century there has been a growing tendency to refer all the sciences relating to man to one comprehensive science, Anthropology.

Blumenbach divided mankind into five races, the Caucasian, the Mongolian, the Ethiopian, the American, and the Malay. Cuvier reduces the five to three, the Caucasian, the Mongolian, and the Ethiopian. Pritchard extended them to seven, the Iranian (the same as the Caucasian), the Turanian (the same as the Mongolian), the native Americans, the Hottentots, the negroes, the Papuas or Woolly-headed Polynesians, the Alfuro and Native Australians. Latham divides mankind into three varieties, Mongolidæ, Atlantidæ, and Japetidæ. Huxley's classification of mankind is into the Australoid, Negroid, Mongoloid, Xanthochroic, and Melanchroic races.

Managua, the capital of Nicaragua, situated in a fertile district, on the S. shore of Lake Managua, 53 miles S. E. of Leon. Pop. about 20,000.

Manassas Junction, a small town in Prince William co., Va. (twice during the Civil War an important military position), where the Alexandria and Manassas Gap railways meet, near a creek named Bull Run, 35 miles S. W. of Washington, D. C. The battles of Bull Run, fought July 21, 1861, and Aug. 29–30, 1862, were known to the Confederates as the battles of Manassas.

Manasseh, in Scripture history, the eldest son of Joseph, born in Egypt. His descendants constituted a full tribe. This was divided in the promised land; one part having settled E. of the Jordan, in the country of Bashan, from the river Jabbok N.; and the other W. of the Jordan, between Ephraim and Issachar, extending from the Jordan to the Mediterranean.

A king of Judah, who succeeded his father, Hezekiah, at the age of 12 years. The commencement of his reign was disgraced by a series of crimes and idolatrous abominations, and "innocent blood filled Jerusalem from one end to the other." In 677 B. C. Esarhaddon, King of Assyria, invaded his dominions, and carried Manasseh captive to Babylon, where his misfortunes produced repentance. After a long captivity the King of Babylon gave him his liberty and restored him to his kingdom. On his return to Jerusalem, he established the worship of the true God. He died in 643 B. C.

Manatee, a large aquatic herbivorous mammal, first discovered by the early Spanish colonists. Manatees are found in the creeks, lagoons, and estuaries of some of the West India islands, on the American coast from Florida to the great rivers of Brazil, on the coast of Africa, and in Lake Tchad. Their numbers are rapidly diminishing, as they are hunted for the sake of their skin, the oil they yield, and their flesh.

Manby, George William, an English inventor; born in Hilgay, Norfolk, England, Nov. 28, 1765. In 1808 he succeeded, with a life-saving apparatus designed by him, in rescuing the crew of the brig "Elizabeth." He died in Southtown, Nov. 18, 1854.

Manchester, a city in Lancaster co., England; on the Irwell, an affluent of the Mersey, 31 miles E. of Liverpool. It is the center of the cotton trade of Great Britain, and one of the principal manufacturing cities in the world. The manufacture of silk goods, which was introduced in 1816, has generally flourished since 1826, producing every description of fabrics from the rich brocade to the flimsy Persian. In some cotton factories the process of spinning only is carried on; in many of them upward of 600 power looms are in action, each producing from 15 to 20 pieces of fabric, of 24 yards each per week. There are over 60,000 persons employed in the cotton mills, besides 7,000 skilled mechanics engaged in the production of steam engines, looms, and other machinery. The climate of Manchester is very healthy, despite the disadvantage of the prevalence of smoke arising from the number of factories, etc. Pop. (1901) 543,969.

Manchester, William Angus Drogo Montagu, Duke of, an English nobleman; born in London, England, March 3, 1877. He was a son of the 8th duke and Consuelo Yznaga de Valle, of Louisiana. He succeeded his father in 1890, and on Nov. 14, 1900, married Helena, daughter of Eugene Zimmerman, of Cincinnati, O.

Manchineel, a tree 40 or 50 feet high, growing on the sandy coasts of the West Indian Islands, Venezuela, Panama, etc. It is very poisonous. If a single drop of the white juice fall upon the skin it will cause a wound extremely difficult to heal. The juice of the fruit similarly burns the lips of any one who bites it.

Manchuria (Chinese Shing-King), a Chinese territory occupying the N. E. corner of the empire; it is divided into three provinces, Shing-King, Feng-Tien, or Leaotong in the S. (of which Mukden is the capital), Kirin in the center (with a capital of the same name), and He-Lung-Kiang in the N. (with capital Tsitsihar); total area, 362,310 square miles; pop. (1900) est. 7,500,000. The country is mountainous, but on the whole fertile. The climate is good; though the winters are severe, they are healthy and bracing. The vast forests of the N. are rich in useful timber of all kinds. The administration is military, the governors of the two N. provinces being subordinate to the governor of Mukden. The Manchus are a hardy race and their country has long been the great recruiting ground for the Chinese army; but of late years vast numbers of Chinese proper have flocked into it, so that now they by far outnumber the native race. In the 17th century the Manchus invaded China and placed their leader's son on the throne. Since that time the Manchu dynasty has continued to reign in China, and the Manchu language has become the court and official language.

For a considerable time prior to 1891, when the first sod was turned for the construction of the great Siberian railroad, the Russian government was anxious to secure control of this territory. On Nov. 9, 1901, the Russian Minister of Finance, in announcing the completion of this railroad from Transbaikal territory to Vladivistok and Port Arthur, used the phrase "Our enterprise in Manchuria is practically, though not entirely, concluded." A number of times it was declared that the Chinese government, under pressure from Li Hung Chang, had signed a secret treaty with Russia for the cession of this territory. In 1900, while the allied army was hastening to the relief of the legations in Peking a Russian military force occupied the right bank of the Amur river, and declared it to be Russian territory, and a provisional Russian administration was established. Official declarations were sent out from Petersburg to the effect that the current rumors of an incorporation of Manchuria with the Russian empire were groundless.

In October, 1903, Russia having failed to evacuate Manchuria on the 8th of that month, as promised, Japan made military and naval preparations of a warlike character, while Russia also strengthened her forces in the distant Orient. It was generally believed that the two powers would come to an understanding giving Japan a free hand in Korea, and Russia in Manchuria. While warlike preparations went on, alarming reports of impending hostilities were denied from both St. Petersburg and Yokohama.

Manco Capac, the founder and legislator of the Peruvian empire, sup-

posed to have flourished in the 12th century.

Mandæans, an Oriental religious sect of great antiquity. Their religion is a kind of Gnosticism, retaining various Jewish and Parsee elements. They publicly call themselves Sabians, thus professing to identify themselves with the Sabæans tolerated in the Koran.

Mandalay, the capital of Burma from 1860 to its annexation by India in 1886; situated in a level plain about two miles from the left bank of the Irrawaddy. Since the British occupation the town has suffered severely from fires and floods. Pop. (1901) est. 194,500.

MANDRAKE.

Mandamus, a writ issued by a superior court and directed to some inferior tribunal, or to some corporation or person exercising public authority, commanding the performance of some specified duty.

Mandarin, a general term applied by foreigners to Chinese officers of every grade.

Mandeville, Sir John, an English traveler who flourished in the 14th century. He was the author of a popular book of travels of that country. It is a most entertaining and curious compilation of legends, miracles and wonder-stories from many sources.

Mandingoes, a negro tribe of West Africa, remarkable for their intelligence, and generally for the advances they have made in civilization. The original country of this people, who are now spread over a great portion of West Africa, was the N. slope of the high table-land of Senegambia. They live in small independent states, their clay-built walled towns often containing about 10,000 inhabitants.

Mandolin, an Italian fretted guitar, so called from its almond shape.

Mandrake, a perennial herb. From the rude resemblance of the bifurcated root to the human figure many superstitious notions have gathered round this plant.

Mandrill, an African baboon. It was well known to the ancients. A full grown male measures about five feet when erect. Mandrills are insectivorous, and in addition to their immense canine teeth approach the Carnivora in many points of anatomical detail.

Manes, in roman mythology, benevolent spirits, and generally speaking, the spirits of ancestors.

Mangan, James Clarence, an Irish poet; born in Dublin, Ireland, May 1, 1803. He died in Dublin June 20, 1849.

Manganese, a diatomic metallic element, proved to be distinct from iron, but the metal itself was first eliminated in 1744. It occurs chiefly in the form of peroxide (black oxide of manganese), and as sulphide and carbonate. Manganese enters into compounds both as a base and also as an acid radical. It forms several well characterized oxides.

The production of manganese ores in the United States in the calendar year 1900, amounted to 11,771 long tons, valued at $100,289, an increase in a year of over 1,800 long tons.

Manganese Bronze, a kind of bronze in which the copper forming the base of the alloy is mixed with a certain proportion of ferro-manganese, and which has exceptional qualities in the way of strength, hardness, toughness, etc.

Mango, an umbrageous tree, wild on the Western Ghauts, in the Chutia Nagpore Hills and the Naga Hills, and cultivated all over India. The fruit is considered one of the very best in India.

Mango Fish, known in India as the tupsee. Is found in the Bay of Bengal, ascending the Ganges and other rivers to a considerable extent. Its popular name has reference to its beautiful yellow color, resembling that of a ripe mango.

Mangold Wurzel, or **Mangel Wurzel,** a large-rooted species of beet cultivated chiefly as fodder for cattle.

MANDRILL.

Mangrove, a tree inhabiting the shores of the tropical parts of the world in either hemisphere, and well known to navigators on account of the dense groves which it forms, even down into the water itself.

Manhattan, one of the boroughs comprising the city of New York. It is the parent settlement, built on the island of Manhattan, and is the richest and most important of the boroughs.

Manhattan College, an educational institution in Manhattan borough of New York city; founded in 1853 under the auspices of the Roman Catholic Church.

Manheim, or **Mannheim,** a town and capital of the grand-duchy of Baden, circle of the Lower Rhine, at the confluence of the Neckar and the Rhine, 37 miles S. E. of Mayence. The principal public buildings are the palace, containing museums of antiquities, natural history, etc., and a library of 80,000 volumes; the observatory, a noble building, with a curious tower 108 feet in height, and the custom house. Pop. (1900) 140,384.

Manifest, Ship's, a formal statement of a cargo for the use of the custom house officers, and usually containing a list of all the packages on board, with their distinguishing marks, numbers, and descriptions, all of which details are indicated by a printed form.

Manihiki Islands, a group of low, wooded atolls, scattered over the Central Pacific, between the Marquesas and Union groups; area, 12 square miles; pop. (1900) 1,000. Most of these islands belong to Great Britain.

Manila, the chief town of the Philippine Islands and capital of Luzon; on the E. side of a wide bay on the S. W. coast of Luzon, 650 miles S. E. of Hong Kong, with which city it has been connected by telegraph since 1881. It is divided into two portions by the Pasig river. On the S. bank stands the old town, founded in 1571, surrounded by crumbling walls, with tolerably wide, straight streets crossing each other at right angles. Here are the archbishop's palace, numerous churches and monasteries, the cathedral, university, Jesuit observatory, arsenal, and the barracks of the former Spanish garrison. On the N. bank are the modern suburbs, the commercial and native quarters, with the palaces of the former governor-general and the admiral of the station. The city is liable to visitations of earthquakes, typhoons, and thunderstorms of exceptional violence.

The native houses are generally constructed of bamboo and thatched with the leaves of the nipa palm. Glass is not used in the windows, but the translucent shell of a mollusk; and the window-frames all slide horizontally. This is to exclude the great heat, the mean for the year being 82° F.; but during the rainy season (May to November) it ranges from 65° to 68°. Almost the only industry is the manufacture of cigars, which employs about 25,000 persons. The harbor is not very safe during S. W. and N. E. winds, though shelter is afforded by a small breakwater. Large ocean-going vessels

anchor at the naval station of Cavite, 2 miles to the S. W. A railway extends from Manila to Dagupan, a distance of 120 miles. The principal port of the Philippines, Manila, has an export trade valued approximately at $17,000,000 annually, and an import trade that falls but little short of that figure.

On the morning of May 1, 1898, after war had broken out between the United States and Spain, was fought the battle of Manila Bay. On May 4 Commodore Dewey seized the arsenal. Manila was invested by American troops, June 30, 1898, and on Aug. 13, after an organized attack by sea and land and two hours' hard fighting, it surrendered and the flag of the United States was raised over the city. Pop. about 150,000.

Manila Bay, Battle of, a remarkable engagement between the American Asiatic squadron, under command of Commodore George Dewey, and a Spanish naval force, under command of Admiral Montojo, supported by land batteries, fought on May 1, 1898. When it became evident, in March, 1898, that war between the United States and Spain was inevitable, Commodore Dewey began to mobilize his vessels in the harbor of Hong Kong preparatory to striking a blow at the Philippine Islands on the breaking out of hostilities. By April 1 he had gathered there his flagship, the "Olympia," a steel protected cruiser; the "Boston," a partially protected steel cruiser; the "Raleigh," protected steel cruiser; the "Concord," steel gunboat; and the "Petrel," steel gunboat. Toward the close of the month, the "Baltimore," a steel protected cruiser, the "Hugh McCulloch," revenue cutter, and two newly-purchased ships loaded with coal and other supplies, joined the fleet. Lying in Manila Bay, one of the largest and most important in the world, was a Spanish squadron, comprising the "Reina Christina," steel cruiser; "Castilla," wood cruiser; "Velasco," iron cruiser; "Don Antonio de Ulloa," iron cruiser; "Don Juan de Austria," iron cruiser; "Isla de Cuba," steel protected cruiser; "Isla de Luzon," steel protected cruiser; "General Lezo," gunboat; "El Cano," gunboat; "Isla de Mindanao," auxiliary cruiser; "Marques del Duero"; and two torpedo boats. It was supposed that the harbor had been planted with mines and torpedoes and supplied with numerous searchlights, and that the forts on the shore had been strengthened in anticipation of an attack.

The United States squadron entered the bay on the night of April 30, and at 5 o'clock on Sunday morning, May 1, opened fire on the Spanish squadron and the forts. Two engagements were fought, and during the brief interval the United States squadron drew off to the E. side of the bay to enable officers and men to get their breakfast. The entire battle lasted less than two hours. The Spanish flagship, "Reina Christina," was completely burned; the "Castilla" suffered the same fate; the "Don Juan de Austria" was blown up by a shell from one of the United States vessels; one or more ships were burned; and the entire Spanish fleet was destroyed. After his second attack, in which he destroyed the water battery at Cavite, Commodore Dewey anchored off the city of Manila and sent word to the governor-general that if a shot was fired from the city at the fleet, he would lay Manila in ashes. The Spanish loss was about 2,000 officers and men. The United States squadron did not lose a ship or a man. Two vessels were damaged in their upper works, and eight men were variously injured.

Manis, Pangolin, or scaly ant-eater; They can roll themselves into a ball, and are then protected by their scales, which are capable of inflicting pretty severe injuries. The genus is confined to Africa and India.

Manito, or **Manitou,** among some American Indians the name given to a spirit, god, or devil, or whatever is an object of religious awe or reverence.

Manitoba, a province of the Dominion of Canada; bounded on the N. W. and N. by the Northwest Territories, viz., Assiniboia, Saskatchewan, and Kewatin; on the E. by the province of Ontario, and on the S. by the United States; area, 73,956 square miles; pop. (1901) 254,947; capital, Winnipeg.

The greater part of the province consists of prairie land, in a series of levels known as "steppes" or

"benches" and dotted with growths of deciduous trees, and about 30 miles E. of Winnipeg begins a swampy district, in which are occasional elevations of ground covered with cedar, spruce, white pine, aspen, cottonwood, balsam-willow, and tamarack. There are a few mountains of low elevation. The lakes, which are numerous, include Lake Winnipeg, Lake Winnipegosis, Lake Dauphin, and Lake Manitoba. The chief rivers are the Winnipeg, Assiniboine, and Red. The climate in winter is cold, the mercury sometimes falling to 50° below zero; but the province has few violent storms, and is healthful. The summer months are part of May, June, July, August, and September.

The soil is generally a rich black mold, resting partly on a limestone formation and partly on a thick strata of hard clay. There is a luxurious growth of all kinds of vegetables and roots known to temperate climates.

The affairs of Manitoba are directed by a lieutenant-governor, appointed for a term of five years by the Canadian Governor-General-in-Council, with an Executive Council of five members, and a Legislative Assembly consisting of 40 members, who are chosen every four years by popular vote. The province is represented in the Dominion Parliament by four senators, appointed for life by the Governor-General-in-Council, and by seven members of the Legislature elected by popular vote. The judiciary includes a chief-justice, three judges of the Court of King's Bench, and three county judges. In 1901 the province had 10 members in the Canadian House of Commons.

The public schools are free, and non-sectarian, religious instruction being permitted only by the parents' consent. The Presbyterian Church is the strongest in the province, with a membership of about 40,000. The Church of England had 30,852 members; the Methodist, 28,437; the Roman Catholic, 20,571; the Baptist, 16,112; and other denominations an aggregate of 17,533.

In 1769 English fur traders visited this region. These companies were united in the Hudson Bay Company. Manitoba was first settled about 1812, on the W. bank of the Red river, 4 miles N. of the present site of Winnipeg. In 1836 the territory was repurchased by the Hudson Bay Company, and was sold in 1867 for $1,500,000 to the British government, which then transferred it to Canada. In 1870, under a law of the Canadian Parliament called the Manitoba Act, the province began its constitutional life. The French settlers, discontented by the transfer of the province, formed a provisional government headed by Louis Riel. On the arrival of a British military expedition Riel fled to the United States, and opposition to Canadian rule collapsed. With the completion of the Canadian Pacific railway in 1886, Manitoba entered upon a new era.

In 1884–85 Riel again sought to excite rebellion, and was captured, tried, and executed for treason, Nov. 16, 1885, at Regina, Northwest Territory.

Manitoba Lake, a lake of Canada, province of Manitoba, 30 or 40 miles S. W. of Lake Winnipeg; length about 120 miles; breadth about 25 miles; area, 1,900 square miles.

Manitou Caverns, a group of caves near Manitou Springs, Col. They were discovered by George W. Snider in 1881, but were only opened to the public in 1885. Unlike the Mammoth Cave or the Luray Caverns of Virginia, these caverns are located amid superb scenery.

Manitoulin Islands, a chain of islands in Lake Huron, separating it from Georgian Bay. The principal are Grand Manitoulin (80 miles long and 28 wide), Cockburn Isle, and Drummond Isle; the last belongs to the State of Michigan, the rest to Ontario. Pop. about 2,000.

Manjak, a mineral discovered on the island of Barbadoes, in the Lesser Antilles. It is of a lustrous black color and as a fuel surpasses coal and all substances heretofore known. It is thought that manjak is petrified petroleum, great quantities of petroleum being found on the same island.

Manly, John, an American naval officer; born in Torquay, England, in 1733. He received a naval commission from Washington in 1775. Invested with the command of the schooner "Lee," he kept the hazardous station of Massachusetts Bay, during a most

tempestuous season, and the captures which he made were of immense value at the moment. An ordnance brig, which fell into his hands supplied the Continental army with heavy pieces, mortars, and working tools, of which it was very destitute, and led to the evacuation of Boston. Being raised to the command of the frigate "Hancock," of 32 guns, his capture of the "Fox" increased his high reputation for bravery and skill. He was taken prisoner by the "Rainbow," July 8, 1777, and suffered a long and rigorous confinement on board that ship. He died in Boston, Mass., Feb. 12, 1793.

Mann, Henry, American journalist and author; born in Glasgow, Scotland, March 25, 1848; served at 16 in 82d and 59th New York volunteers in Civil War; in 13th and 31st United States Infantry in the Northwest; Justice of the Peace and member of the Town Council and Court of Probate of North Providence, R. I., 1886–87; assistant editor New York "Sun," Providence "Journal," and New York "Press," editor-in-chief Providence "Telegram." Wrote "Ancient and Mediæval Republics," "The Story of Our Country," and other books on historic and economic subjects.

Mann, Horace, an American educator; born in Franklin, Mass., May 4, 1796. He was member of Congress from Massachusetts in 1848–1853; president of Antioch College in 1852–1859. He died in Yellow Springs, O., Aug. 2, 1859. Horace Mann's great work was the revival of the common school system, which had greatly degenerated in practice from the original views of the Pilgrim Fathers. In his diary and in numerous letters he presented for nearly every town he visited the same dark picture of apathy or open opposition on the part of the people, and of ignorance and incompetency in the teachers. His reports stirred the public to the need of reform. "His twelve annual reports," says Dr. Louis Albert Banks, in the "Hall of Fame," published by the "Christian Herald," are an enduring monument of well directed zeal in the public service, of comprehensive and practical views of educational improvement, of a thorough appreciation of the degraded condition of the schools, and of his power as a master of the English language." He awakened the dormant conscience of the old Bay State and the free schools of Massachusetts took rank among the best in the world, and the whole nation felt the impulse thus given to the cause of education. He has a place in the Hall of Fame of New York University.

Manna, "a small, round thing, as small as the hoar frost," which lay on the face of the wilderness every morning except on the Sabbath, sent by Jehovah as bread rained from heaven and continued during the whole 40 years of the Israelite wanderings in the wilderness. It melted when the sun became hot, and if left till next day bred worms and stank.

Manning, Daniel, an American financier; born in Albany, N. Y., May 16, 1831; began life as a printer and a reporter on the Albany "Argus"; became president of the Argus Company, and a prominent Albany banker and politician. In 1885 he was chosen Secretary of the Treasury in the cabinet of President Cleveland, but resigned in 1887, and died in Albany, N. Y., Dec. 24, of that year.

Manning, Henry Edward, an English clergyman and writer; born in Totteridge, Hertfordshire, July 15, 1808. Originally a clergyman of the Church of England, he became a Roman Catholic priest in 1851; Archbishop of Westminster in 1865; cardinal in 1875. He founded the Roman Catholic University in Kensington in 1874. He died in Westminster, Jan. 14, 1892.

Manning, Jacob Merrill, an American clergyman; born in Greenwood, N. Y., Dec. 31, 1824; was graduated at Amherst College in 1850, and at Andover Theological Seminary in 1853; ordained in the Congregational Church in 1854; became assistant pastor of the Old South Church, Boston, Mass., in 1857; and was its pastor in 1872–1882. He died in Portland, Me., Nov. 29, 1882.

Manœuvres, or **Maneuvers,** the movements and evolutions of any large body of troops or fleet of ships, for the purpose of testing the efficiency of the various bodies of the service under the conditions of actual warfare, and for the purpose of instructing officers

in tactics and officers and men in their various duties.

Manor, in English law, a lordship or barony held by a lord and subject to the jurisdiction of a court-baron held by him.

Mansard, a style of roof, also called the French curb, or hip-roof; named after a French architect, who invented it. It was designed to make the attics available for rooms, in consequence of a municipal law limiting the height of front walls in Paris.

Manse, in Scotch law, the designation of a dwelling house of the minister of the Established Church, and in popular use the term is often applied generally to the dwelling house of any minister of a dissenting congregation, though no legal right exists in the latter case. The term is frequently used in America.

Mansfield, Edward Deering, an American journalist; born in New Haven, Conn., Aug. 17, 1801. He was for many years a contributor to the New York press over the signature "Veteran Observer." He died in Morrow, O., Oct. 27, 1880.

Mansfield, Richard, an American actor; born on the Island of Heligoland, North Sea, in 1857; first studied art, but afterward prepared for the stage; came to the United States and appeared at the Standard Theater, New York. He became very successful in many plays, and is one of the leaders of the American stage.

Mansfield, William Murray, Earl of, a Scotch jurist; born in Scone, Scotland, March 2, 1705; was called to the bar in 1731. In 1742 he was appointed solicitor-general, and obtained a seat in Parliament about the same time. In 1754 he was attorney-general, and in 1756 he was appointed chief justice of the King's Bench, and made Baron Mansfield. In 1776 he was advanced to the dignity of earl. He frequently refused high office, notably that of chancellor. In 1788 he resigned his office of chief-justice; and the remainder of his life was spent in retirement. He died in London, England, March 20, 1793.

Mansion House, the official residence of the Lord Mayor of London; built on the site of the Old Stock Market in 1739, at a cost of $213,190.

Manslaughter, the slaughter or killing of a human being or beings; homicide.

Mantegna, Andrea, an Italian painter; born in Padua, Italy, in 1431. Mantegna excelled in perspective, which was then a rare merit; he introduced the art of engraving on copper into Upper Italy. He died in Mantua in 1506. His two sons, Franceso and Carlo, were also painters.

Mantell, Gideon Algernon, a British palæontologist; born in Lewes, Sussex, England, in 1790. To him we owe the discovery and description of the four great Dinosaurian reptiles, the Iguanodon, Hylæosaurus, Pelorosaurus, and Regnosaurus. He died in London, Nov. 10, 1852.

Mantell, Robert Bruce, an American actor; born in Irvine, Scotland, Feb. 7, 1854; made his first professional appearance, Oct. 21, 1876. He came to the United States and created juvenile roles in 1878, with Mme. Modjeska. He later organized a company of his own.

Manteuffel, Edwin Hans Karl, Freiherr von, a Prussian soldier; born in Dresden, Feb. 24, 1809. Entering the Prussian guards in 1827, he rose to be colonel by 1854, and three years later was nominated head of the military bureau at Berlin, a post which he held till 1865. He entered the war of 1870 as commander of the First Corps, but was soon promoted to the command of the First army, which fought successfully at Amiens and other places. When peace was proclaimed he was placed at the head of the army of occupation in France, and in 1879 was appointed imperial viceroy of the newly organized provinces, Alsace-Lorraine. He died in Carlsbad, Bohemia, June 17, 1885.

Mantis, the so-called soothsayer, or praying insect. They are very pugnacious; the Chinese are said to keep them in cages and match them against each other.

Manual Training, in modern education, the training of the hand and eye in the use of typical tools, suitable materials, and mechanical methods, as well as in practical drafting, including the best methods of both freehand and accurate instrumental drawing of various objects.

Manufactures, United States. The statistics of the manufacturing industries of the United States, as shown by the official returns of the census of 1900, which do not include establishments with products of less than $500, governmental establishments, or penal, eleemosynary and educational institutions, showed the following totals and comparisons with the figures for 1890: Number of establishments, 512,585; increase, 44 per cent. Capital, $9,853,630,789; increase, 51 per cent.; wage earners (average number), 5,310,598; increase, 25 per cent. Total wages, $2,323,407,257; increase, 23 per cent. Miscellaneous expenses, $1,028,550,653; increase, 63 per cent. Cost of materials used, $7,349,916,030; increase, 42 per cent. Value of products (including custom work and repairing), $13,019,251,614; increase, 39 per cent. Nearly every branch of manufacture in America has shown a marked advance since 1900.

Manumission, in ancient Rome, the form by which slaves were released from their conditions; so called because they were sent, as it were, out of the hand or power of their master.

Manuscripts, literally, writings of any kind, whether on paper or any other material, in contradistinction to printed matter. Previous to the introduction of printing all literature was contained in manuscripts, and the deciphering and proper use of these form an important part in the science of palæography. All the existing ancient manuscripts are written on parchment.

Numerous manuscripts of the Old and New Testaments of the 2d and 3d centuries exist. It was a common custom in the Middle Ages to obliterate and erase writings on parchment, for the purpose of writing on the materials anew, manuscripts thus treated being called "palimpsests." The art of illuminating manuscripts dates from the remotest antiquity.

Manutius, Aldus, or **Aldo Manuzio,** an Italian printer; born in Sermonetta, Italy, about 1447. In 1488 he established himself as a printer at Venice, but the first work which he finished was not published till 1494. He was the inventor of the italic or cursive character, hence called "Aldine." He died in Venice, Feb. 6, 1515.

Manazno, Juan Francisco, a Cuban poet; born in Havana, Cuba, in 1797. A negro, born in slavery, and remaining in servitude for 40 years he obtained his education with great difficulty. While still a slave he succeeded in publishing a small volume of poems entitled "Passing Flowers." He died in 1854.

Map, a representation of a portion of the earth's surface, or of a portion of the heavens on a plane.

Maple, a name for trees of the genus Acer, peculiar to the N. and temperate parts of the globe. About 50 species are known, distributed through Europe, North America, and different parts of Asia. The sugar or rock maple is the most important American species; this yields maple sugar, which in many parts of North America is an important article of manufacture. The knotted parts of the sugar-maple furnish the pretty bird's-eye maple of cabinet makers.

MARABOU.

Maqui, an evergreen or sub-evergreen shrub, of considerable size, a native of Chile. The Chileans make a

wine from its berry. The wood is used for making musical instruments, and the tough bark for their strings.

Marabou, the popular name for at least two species of storks, the vent feathers of which were formerly much esteemed as ornaments and for ladies' headdresses.

Maracaibo, or **Maracaybo,** a city of Venezuela, on the W. shore of the strait which connects the lake and gulf of Maracaibo. It is a handsome town. The climate is hot, the soil sandy, and the place unhealthy, owing mainly to the unsanitary domestic arrangements. Pop. (1901) 42,500. A fort defending the entrance to Maracaibo was bombarded by the Germans in 1903 during the allied blockade of Venezuelan ports. Although the fort was almost destroyed, the advantage was generally regarded as remaining with the Venezuelans, the Germans failing to carry out their purpose of penetrating to Maracaibo.

Maracaibo, Gulf of, or **Gulf of Venezuela,** a wide inlet of the Caribbean Sea, extending from the peninsulas of Paraguana and Guajira to the strait by which it is connected with the lake.

Marajo, an island between the estuaries of the Amazon and Para; area, nearly 18,000 square miles.

Marat, Jean Paul, a French revolutionist; born in Baudry, Neufchatel, Switzerland, May 24, 1744. In his youth he applied himself to the study of medicine and anatomy; and settling in Paris, attracted notice as an empiric and vender of medicines. He was president of the Jacobin Club. The fall of the Girondists was a triumph for him and his friends, but it led quickly to his own end. It was at this time that Charlotte Corday resolved to rid the world of him, and he was stabbed by her in Paris, July 13, 1793.

Marathon, a village on the E. coast of ancient Attica, 22 miles from Athens, long supposed to be the modern Marathona. It stood in a plain 6 miles long and from 3 to 1½ miles broad. The name of Marathon is gloriously memorable as the scene of the great defeat of the Persian hordes of Darius by the Greeks under Miltiades (490 B. C.)—one of the decisive battles of the world.

Marble, a popular name for any limestone which is sufficiently hard to take a fine polish; any calcareous or even any other rock which takes a good polish and is suitable for decorative or architectural purposes. The value of the production of marble in the United States in the year 1900 was $4,267,253, Vermont, Georgia, and Tennessee furnishing the largest amount.

Marblehead, The, a twin-screw, steel, unprotected cruiser of the United States navy. She performed a conspicuous part in the destruction of the Spanish fleet off Santiago, Cuba, in 1898.

Marburg, a quaint old town in the Prussian province of Hesse-Nassau, situated on the Lahn, 50 miles N. of Frankfort. In its Rittersaal was held in 1529 the conference between the Wittenberg and the Swiss reformers regarding the Lord's Supper.

Marcellus, M. Claudius, a Roman general and member of one of the most eminent plebeian families. In his first consulship (222 B. C.) he defeated the Insubrian Gauls. In the second Punic war Marcellus took command after the disaster of Cannæ, and put a check on the victorious Hannibal at Nola, in Campania (216 B. C.). Again consul in 214 B. C., he gave a fresh impulse to the war in Sicily. In his fifth consulship, 208 B. C., he fell in a skirmish against Hannibal.

March, the first month of the Roman year, and the third according to our present calendar, consisting of 31 days. It was considered as the first month of the year till the change of style in 1752, and the legal year was reckoned from March 25.

Marchand, Jean, a French military officer; born in Thoissey, Aine, France, Nov. 22, 1863. After a brief experience as clerk to a notary he entered the army in 1883. He spent some time in a military school, and was then sent to Africa, where later he distinguished himself. When France obtained control of French Kongo she sent Colonel Liotard to the Upper Ubangi region to look after French interests. Captain Marchand was afterward appointed one of his subordinates, with special instructions to push on toward the Nile. These in-

structions he carried out, and in 1898 arrived at his goal, Fashoda. He held Fashoda till, at the demand of England, his government ordered him to withdraw from it. He was made major in 1898.

Marchand, Felix Gabriel, a Canadian statesman; born in St. John's, P. Q., Jan. 9, 1832. He was for years prominent in public life, and leader of the Liberals in the Provincial Assembly of Quebec.

Marchesi, Blanche, born in Paris; a teacher of singing who has trained many well-known prima donnas.

Marchiali, or **Marchialy (The Man in the Iron Mask),** a mysterious state prisoner in France, who always wore a black velvet mask which completely concealed his face. He was at first confined at Pignerol in 1679; thence removed to Exilles in 1681; to the island of St. Marguerite in 1687; and finally, Sept. 18, 1698, to the Bastille, where he died Nov. 19, 1703. He was everywhere attended by M. de St. Mars; and though the slightest attempt on his part to reveal his real name would have met with instant death, he was uniformly treated with the greatest courtesy and indulgence. Various attempts have been made to ascertain the identity of the Man in the Iron Mask. It is now generally admitted, though without satisfactory evidence, that the mysterious prisoner was Count Matthioli, minister of the Duke of Mantua. Having broken faith with Louis XIV., Count Matthioli was lured to the French frontier, arrested, May 2, 1679, and imprisoned.

Marcomanni, a name meaning Men of the Marches, or Frontiers, or Borderers, and given by the Romans to various tribes on the confines of Germany. Some hordes under this name were driven out of Gaul by Julius Cæsar, 58 B. C. Marobodnus formed a league against these tribes, and concluded a treaty with Tiberius in the year 6. In alliance with other tribes they invaded the Roman empire in 166, when a war commenced which was not brought to a close till 180. The last notice of the Marcomanni is in 451, when they formed a contingent of the army with which Attila invaded Gaul and Italy.

Marconi, William, an Anglo-Italian electrician; born in Griffone, near Bologne, Italy, April 25, 1874. His mother was an Englishwoman. He began experimenting in wireless telegraphy in 1895. His first English exhibition was given in 1896, and was private. After that public interest was aroused and experiments were tried with varying degrees of success. He visited the United States to induce the government to buy the right to use his system, but did not succeed, as what was regarded as a superior system had been perfected by the Signal Service. Various European navies, however, adopted it. In 1901 and 1903 the yacht races for the America's cup were reported by the Marconi system, and he has established communication between America and Europe by wireless telegraphy, the London Times receiving daily dispatches by his system.

Marcou, Jules, an American geologist; born in Salins, France, April 20, 1824; received a collegiate education; traveled in Switzerland, where he met Jules Thurmann, with whom he was afterward associated in the geological survey of the Jura Mountains. While in this work he made the acquaintance of Louis Agassiz, who invited him to the United States, and whom he assisted on his survey of the Lake Superior region in 1848. He then studied the geology of New Jersey, Pennsylvania, the Mammoth Cave, Virginia, and the Canadian provinces. In 1853 he entered the service of the United States government; was the first geologist to cross the American continent; and on this trip drew a section map of the 35th parallel from the Mississippi river to the Pacific Coast. He died in Cambridge, Mass., April 17, 1898.

Marcy, Randolph Barnes, an American military officer; born in Greenwich, Mass., April 9, 1812; was graduated at the United States Military Academy in 1832; and was assigned to the frontier, where he served in the Black Hawk War. During the Mexican War he took part in the actions of Palo Alto and Resaca de la Palma; was promoted captain in May, 1846, and assigned to the recruiting service; made inspector-general, U. S. A., with the rank of colonel, in Au-

gust, 1861; and served as chief of staff to Gen. George B. McClellan throughout the Civil War. He was appointed Brigadier-General of volunteers, Sept. 23, 1861; inspected the departments of the Northwest, Arkansas, Missouri, Mississippi, and the Gulf till 1865; was inspector-general, U. S. A., from December, 1878, to January, 1881, when he was retired. He died in Orange, N. J., Nov. 22, 1887.

Mardi Gras, Shrove Tuesday, the last day before Lent. In the United States the day is observed with great ceremonies, especially in New Orleans and Memphis.

Mare Island, an island in San Pablo Bay, Cal., 28 miles N. of San Francisco. Here are located a United States naval arsenal and dockyard. The vessels for conveying troops and materials to the Philippines were fitted out at this station.

Maretzek, Max, an American operatic manager; born in Brunn, Austria, June 28, 1821; was graduated at the University of Vienna. He early turned his attention to music and by 1843 was a skillful orchestral conductor; came to the United States in 1848 and for a year was musical director of the Astor Place Opera House. He then entered upon his career as an impressario. In 1858 he introduced Adelina Patti to the American public; in 1872 brought out Pauline Lucca. He died in Staten Island, N. Y., May 14, 1897.

Margarita, an island in the Caribbean Sea, belonging to Venezuela; area, 380 square miles; forms the great part of the Nueva Esparta section of the State of Guzman Blanco. Discovered by Columbus in 1498.

Margay, a feline from Brazil and Guiana, where it is known as the tiger cat. It is smaller than the ocelot to which it has a general resemblance, thought it is not so handsome. It is capable of domestication, and is a capital ratter.

Margrave, originally a commander intrusted with the protection of a mark, or country on the frontier. The Margraves acquired the rank of princes, and stood between counts and dukes in the German empire.

Maria da Gloria, Queen of Portugal, daughter of the Emperor of Brazil, Dom Pedro I., by his first consort, the Archduchess Leopoldine of Austria; born in Rio de Janeiro, April 4, 1819. On the death of her grandfather, John VI., she was designated successor to the crown of Portugal. When Dom Miguel had accepted this arrangement, and received the regency, the young queen left Brazil, in 1828, to sail for Europe. Miguel had, meanwhile declared himself absolute King of Portugal, and forbade the queen to land. On April 9, 1836, she was married to Duke Ferdinand, son of Ferdinand of Saxe-Coburg, who, on the birth of a crown-prince, was named king. Died in Lisbon, Nov. 15, 1853.

Maria Louisa, Empress of the French; second wife of Napoleon I.; born in Vienna, Austria, Dec. 12, 1791. She was the eldest daughter of Francis I., Emperor of Austria, and of his second wife, Maria Theresa of Naples. In 1810 she was married to the emperor, then in the zenith of his power; in 1811 she presented her husband with a son, to the great joy of the French nation; and, in 1813, on his departure to the army, she was nominated regent. In 1814 she refused to accompany Napoleon to Elba, and having obtained, by treaty with the allied powers, the duchies of Parma and Placentia, etc., she repaired thither. She died in Parma, Italy, Dec. 17, 1847. It is probable that she never really loved Napoleon, and her conduct when he began to decline was most heartless.

Maria Theresa, Queen of Hungary and Bohemia, Archduchess of Austria, and Empress of Germany, daughter of the Emperor Charles VI.; born in Vienna, May 13, 1717. In 1736 she married Duke Francis Stephen of Lorraine, who in 1737 became Grand-Duke of Tuscany. The day after her father's death, in 1740 she ascended the throne of Hungary, Bohemia, and Austria, and declared her husband joint ruler. Assailed by powerful foes she maintained long and costly wars in successful defense of her dominions. She died in Vienna, Nov. 29, 1780.

Mariazell, the most famous place of pilgrimage in Austria, in the extreme N. of Styria, 60 miles from Vienna. It is visited by thousands of pilgrims annually. The image of the

Virgin, the object of the pilgrimages, is enshrined in a magnificent church.

Marie Antoinette, Queen of France; born in Vienna, Austria, Nov. 2, 1755. She was the daughter of the Emperor Francis I. and the celebrated Maria Theresa. She left Vienna for Versailles, in 1770, when only 15 years of age, to give her hand to the young Duke of Berri, afterward Louis XVI. of France. When her husband ascended the throne in 1774, she gained the affections of the people by repeated acts of generosity. It was the queen who advised the flight of the royal family from Paris in June, 1791, which ended in their capture and return.

At length came the fatal 10th of August, 1792. Prepared for the worst, the queen exerted all her power to induce the king to meet death sword in hand; but he thought resistance was in vain, and was led with his consort before the Legislative Assembly, where she heard his deposition announced, and then accompanied him to the prison of the Temple. There, deprived of every semblance of royalty, and bereft of every comfort, she displayed the magnanimity of a heroine and the patient endurance of a martyr. In January, 1793, she had a parting interview with her husband, on whom sentence of death had been passed by the Convention. In August following she was removed to the Conciergerie, and in October she was brought before the revolutionary tribunal. She heard her sentence pronounced with perfect calmness. Her head was quickly severed by the guillotine, and shown to the people, who redoubled their shouts of exultation. Thus perished Marie Antoinette in the 38th year of her age, Oct. 16, 1793.

Marie Galante, a French island in the West Indies, 17 miles S. E. of Guadeloupe; area, 58 square miles; pop. about 15,000. Discovered by Columbus in 1493.

Marietta College, a coeducational non-sectarian institution in Marietta, O.; founded in 1835.

Marigold, a name of several composite plants. The common marigold is an annual, from one to two feet high, with large deep-yellow flowers. The so-called African marigold and French marigold, common in flower-borders, are both Mexican species, and have brilliant flowers.

Marines, troops enlisted for service either on board ship or on shore. They are drilled, disciplined, clothed, equipped, and paid similarly to the land forces. United States marines distinguished themselves greatly in the operations in Cuban waters in 1898 and in those which led to the rescue of the foreign legations in Peking in 1900.

Mario, Giuseppe, an Italian tenor; born in Cagliari, Sardinia. A youthful escapade led to his forsaking Italy for Paris, where he was appointed first tenor of the opera, changing his name at the same time from De Candia to Mario. After two years' study at the Conservatoire Mario made his debut, Dec. 2, 1838, and achieved the first of a long series of operatic triumphs in Paris, London, St. Petersburg, and the United States. He died in Rome, Dec. 11, 1883.

Marion, Francis, an American military officer; born near Georgetown, S. C., in 1732. His education was very limited; he was brought up as a farmer. At the outbreak of the Revolutionary War, in 1775, he was elected to Congress, but shortly afterward obtained the command of a company in the regiment of Col. William Moultrie, taking a conspicuous part in the capture of Fort Johnson and in the defense of the forts at Dorchester and Sullivan's Island. In 1777 he was dispatched with 600 men to the defense of Georgia, where he served till that State was overrun by the British. During the time that elapsed after the ill-advised attack of the American forces on Savannah, and the subsequent capture of Charleston, S. C., by the British, Marion, now an invalid, owing to the accidental breaking of a leg, was conveyed from place to place to avoid capture. But when he grew able for service, he gathered a band of young patriots about him, and formed that brigade which afterward became famous for its exploits. He disbanded his brigade in 1782, and taking leave of his followers, by whom he was beloved, returned in almost a state of poverty to his original vocation as a farmer. He died in Pond Bluff, S. C., Feb. 27, 1795.

Marius Caius, a Roman soldier; born near Arpinum, Italy, about 155 B. C. He was one of the first generals of his time, and served seven times as consul. After his defeat by Sylla, he was taken prisoner, but the soldier sent to behead him was so overcome by his commanding appearance that he did not dare to use the sword. Marius again became master of Rome, and the bloody proscriptions which have consigned the name of Marius to infamy took place, exceeding all that was previously recorded in Roman history. Caius Marius served as consul for the seventh time, and the same year, 86 B. C., on hearing that Sylla was approaching, he endeavored to drown care in wine, and is supposed to have killed himself with excess.

Marjoram, a genus of plants; is found in Europe, in the N. part of Africa, and Asia. The dried leaves are used instead of tea.

Mark, the evangelist whose name is prefixed to the second Gospel. He was almost certainly the same as the "John whose surname was Mark," mentioned in Acts xii: 12, 25. The name John was Jewish; Mark (Marcus) was Roman. John Mark's mother lived at Jerusalem, her house being a resort of Christians. He was nephew, cousin, or other relative of Barnabas. He seems to have been converted by Peter, and also to have been the young man so nearly captured on the evening of our Lord's betrayal. On the first missionary journey of Paul and Barnabas he went as their minister, but, while they were at Perga, left them and returned to Jerusalem. Paul considering him fickle would not accept him as an attendant; while Barnabas, his relative, believed him thoroughly trustworthy. In consequence of this difference of opinion, Paul and Barnabas separated, Paul going in one direction on a mission tour, and Barnabas, accompanied by Mark, on another. Ultimately Mark gained anew the good opinion of Paul, and attended on him during his final imprisonment.

The Gospel according to St. Mark: The second of the Gospels, almost universally attributed to the John Mark of this article. The writer was evidently a Jew, or at least familiar with Judea; but his Gospel was specially designed for the Gentiles. Except in recording the discourses of Jesus, he nowhere shows that any incident narrated fulfilled Old Testament prophecy, and the term "law," in the sense of the Mosaic law, nowhere occurs. Statements likely to give offense to the Gentiles are also omitted. His Gospel seems to have been written at Rome. Mark records the miracles more than the discourses of Jesus. His style is more precise and graphic than that of the other evangelists. The language approaches more closely to that of Matthew than to that of Luke. The general opinion of the Christian Church for many centuries was, as it still is, that it was the second Gospel in point of time.

Markham, Sir Clements Robert, an English geographer; born in Stillingfleet, England, July 20, 1830. He accompanied an Arctic expedition in 1851; visited Peru in 1852–1854; visited Peru and India as commissioner to introduce cinchona plants into the latter country in 1860. He was president of the International Geographical Congress (1894–1899).

Markham, Edwin, an American poet; born in Oregon City, Or., April 23, 1852; settled in California in 1857, and worked there during boyhood principally as a blacksmith. His "Man with the Hoe" was extensively republished and gave him wide fame.

Markoe, Peter, pen name A Native of Algiers, an American poet; born in Santa Cruz, W. I., about 1753. Died in Philadelphia, Pa., about 1792.

Marlborough, John Churchill, Duke of, an English soldier and statesman; born in Ashe, Devonshire, England, June 24, 1650. He was the son of Sir Winston Churchill, a devoted adherent of Charles I. After receiving a defective education he was placed, at the age of 12, as page in the household of the Duke of York. His passion for the life of a soldier was not long in showing itself. Continuing in the service of the Duke of York, Churchill married, about 1680, the beautiful and accomplished Sarah Jennings, favorite of the Princess (afterward Queen) Anne. In 1689 he received the command of the English

forces in the Netherlands, and after a brief service in Ireland was recalled to Flanders in 1691. Suspected of a traitorous correspondence with James II., he was deprived of his command and imprisoned in the Tower; and though shortly released was not restored to the favor of the king till 1697. On the breaking out of the War of the Spanish Succession, in 1700, he received the chief command of the forces in the United Provinces, and was named ambassador to France. Marlborough was now to enter upon that career of military achievement which established his reputation as a general. As commander-in-chief of the allied forces he took several places in the Netherlands in 1702; with the Imperialists, under Prince Eugene, gained the victory of Blenheim in 1704, for which he was made a duke and a sum voted to build the palace of Blenheim. Marlborough afterward defeated Marshal Villeroi at Ramillies in 1706, and closed the brilliant series of his victories by those of Oudenarde in 1708, and Malplaquet in 1709. To escape the disquietude of a life at home he went abroad with his duchess. Returning in 1714, George I. restored him to his offices, but he was soon after compelled by an attack of apoplexy to withdraw from public life, and he died at Windsor Lodge, June 16, 1722.

Marlowe, Julia (Mrs. Taber), an American actress; born in Caldbeck, England, Aug. 17, 1870; came with her parents to the United States in 1875; joined the Juvenile Opera Company in 1882; subsequently she took a child's part in "Rip Van Winkle." Afterward she studied in New York for three years. In 1888 she began to star in Shakespearean and other romantic and tragic roles in the United States.

Marmalade Tree, a native of the West Indies and tropical America, valued for its fruit, the pulp of which resembles marmalade.

Marmont, Auguste Frederic Louis Viesse de, a French military officer; born in Chatillon-sur-Seine, France, July 20, 1774. He entered the army at an early age and made the acquaintance of Napoleon at Toulon. He was sent to Dalmatia in 1805 to defend the Ragusan territory against the Russians, defeated them at Castelnuovo. He was summoned to join the great army in 1809, the day before the battle of Wagram, was intrusted with the pursuit of the enemy, won the battle of Znaim, and earned a marshal's baton. A severe wound, received at the defeat of Salamanca, compelled him to retire to France. He maintained the contest with great spirit in France in the beginning of 1814, till further resistance was hopeless, when he concluded a truce with Barclay de Tolly, which compelled Napoleon to abdicate, and earned himself from the Bonapartists the title of the traitor. On the return of Napoleon from Elba he was obliged to flee. After the second restoration he lived in retirement till the revolution of 1830, when he endeavored to reduce Paris to submission, and finally retreating with a few battalions that had continued faithful to Charles X., conducted him across the frontier. From that time he traveled much and resided chiefly in Venice, where he died, March 2, 1852. He was the last survivor of the marshals of the first French Empire.

Marmora, or **Marmara** (ancient Prepontis), a small sea between European and Asiatic Turkey, communicating with the Ægean Sea by the Strait of the Dardanelles and with the Black Sea by the Strait of Constantinople. It is of an oval form, and about 135 miles in length, by 45 in breadth, but has, besides, a large gulf, the Gulf of Isnikmid, or Ismid, which extends about 30 miles E. into Asia.

Marmoset. A small animal living in the tropical region of South America. The common marmoset is readily tamed, and becomes an amusing pet.

Marmot, a genus of rodents, of small size, included in the family of squirrels. The marmots differ greatly in habits from the true squirrels, being terrestrial in habits, and living in burrows which they excavate in the ground. But certain nearly allied forms appear to form connecting links between the marmots and squirrels. Such ground squirrels are found in North America, Europe and Siberia. The prairie dog of North America is the most familiar American species.

The entrance to the burrows of these latter forms is marked by a conical hillock composed of the earth which has been thrown out in the process of excavation; and immense numbers congregate to form "villages." The cry of the prairie dog resembles a shrill bark. A species of owl is alleged to be co-tenant of the burrows with the prairie dogs; and the rattlesnake has also been credited with forming part of a curious social community.

Maronites, a body of Eastern Christians of Mount Lebanon, probably deriving their name from one Maro, a Syrian monk contemporary with Chrysostom. They have excited more attention in Europe than other Oriental Christians, on account of the persecution they have suffered at the hands of the Druses. In 1860, 1,300 Maronites were killed and 100,000 driven from their homes.

Maroon, the name given to runaway negroes in the West Indies. In many cases by taking to the forests and mountains they rendered themselves formidable to the colonists and sustained a long and brave resistance against the whites.

Marquesas Islands, a group in Polynesia, N. of Tuamotu or Low Archipelago; area, about 1,520 square miles; pop. about 29,000. The name strictly applies to four or five islands discovered by Mendana in 1595, but usually includes now the Washington group of seven islands, to the N. W., which were discovered by the American Ingraham in 1797. The whole archipelago is volcanic. In Cook's time there were 100,000 inhabitants.

Marquette, James, a French missionary and explorer; born in Laon, France, in 1637. He became a Jesuit priest in 1666 and went to Canada as a missionary. In 1673–1674 he made an extensive missionary journey through the Lake Superior and Green Bay region, traveling, exploring, and preaching, being in this way one of the early voyagers down the Mississippi river, of which he wrote an interesting account. He died near Marquette River, Mich., May 18, 1675.

Marquez, Jose Arnaldo, a Peruvian poet; born about 1825. He published a book of travels in the United States. He lost his life in the defense of Lima against the Chileans, Jan. 15, 1881.

Marquis, or **Marquess,** a title of nobility ranking next below a duke, and above an earl.

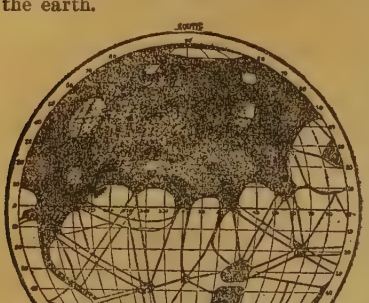
Marrow, a substance of low specific gravity filling the cells and cavities of the bones of mammals.

Marryat, Frederick, an English novelist and distinguished naval officer; born in London, July 10, 1792; the son of an eminent West India merchant; entered the navy as midshipman in 1806. In 1812 he received his promotion to the rank of lieutenant, in 1814 took part in an expedition to New Orleans, and the following year was made commander. For some time subsequent to 1820 he was actively engaged in the preventive service. From 1828 to 1830 he commanded the "Ariadne" in the Channel and Western Islands. That he was not raised to higher professional rank is said to have resulted from the free expression of his opinions against the practice of impressment. His first attempt in literature was made in 1829 by the publication of "Frank Mildmay or the Naval Officer." Its success stimulated him to further exertions of the like kind. He also made a tour in the United States, and published an account of it in 1839 under the title of "A Diary in America," in two series, which, like Mrs. Trollope's similar work, gave not a little offense to the people of the United States. He was also the author of a "Code of Signals for the Use of Vessels Employed in the Merchant Service." He died in Langham, Norfolk, on Aug. 9, 1848.

Mars, the Roman god of war, at an early period identified with the Greek Ares, a deity of similar attributes.

Mars, one of the superior planets situated between the earth on the one side and the vast cluster of asteroids on the other. Its mean distance from the sun is 141,500,000 miles, and at times it is only 36,000,000 miles from the earth. It revolves around the sun a few minutes under 687 days, and rotates upon its axis in 24 hours, 37 minutes, 22.67 seconds. Its equatorial diameter is about 4,200 miles, its polar about 40 less.

Its mass is about one-eighth that of the earth.



THE PLANET MARS.

Viewed by the naked eye, Mars appears of a uniformly red and fiery tint; but looked at through a powerful telescope the ruddy color is found to be confined to certain definite areas. In 1877, Hall, of the Observatory at Washington, by the aid of the great Washington refracting telescope, discovered that Mars has two satellites. The outer moon, named Meimos, is estimated to be from 5 to 6 miles in diameter, and revolves around the planet, at a distance of 12,500 miles, in 30 hours, 18 minutes. Phobos, the inner moon, is but 3,700 miles from the planet, and completes its revolution around Mars in 7 hours, 39 minutes. This is much less than the period of rotation of Mars itself, and constitutes a unique fact in the solar system. In 1892, Mars approached the earth very closely, and from observations made at that time the theory that it is inhabited, while not absolutely determined seems to have received some degree of confirmation.

Marseillaise, a song written by Rouget de Lisle, an officer of artillery in the garrison of Strasburg in 1792. It received its title from having been sung by a party of the Marseillaise Club as they entered Paris on the invitation of Madame Roland. It is virtually recognized as the national song of the French Republic, and was played by a British military band on the recent visit of President Loubet to London.

Marseilles, French **Marseille** a city, principal commercial seaport of France, on the Mediterranean, and capital of the department of Bouches-du-Rhone. It lies in the form of an amphitheater round a natural harbor of moderate size now known as the Old Harbor. Though a handsome city as a whole, Marseilles is not rich in public edifices. The harbor is strongly defended by various works. What is called the New Harbor consists of a series of extensive docks along the shore to the W., with a protecting breakwater in front.

In recent times Marseilles has made great progress in its extent, street improvements, population, and commerce, largely owing to the conquest of Algeria and the opening of the Suez Canal. Marseilles was founded by a colony of Greeks from Asia Minor about 600 years before Christ, the original name being Massalia. It attained great prosperity as a Greek colonial center, and the Greek language is said to have been spoken here till several centuries after Christ. It was taken by Cæsar in 49 B. C. On the decline of the Roman Empire it became a prey to the Goths, Burgundians, and Franks. In 735 it fell into the hands of the Saracens, and in the 10th century it came under the dominion of the counts of Provence, and for some centuries after followed the fortunes of that house. Pop. 494,769.

Marsh, George Perkins, an American diplomatist and philologist; born in Woodstock, Vt., March 15, 1801. A graduate of Dartmouth in 1820, he practised law in Burlington, Vt.; became the first minister to the new kingdom of Italy in 1861, holding the post till his death, a period of over 20 years. As a diplomatist he had great ability. He died in Vallombrosa, Italy, July 23, 1882.

Marsh, Othniel Charles, an American palæontologist; born in Lockport, N. Y., Oct. 29, 1831. A Yale graduate, he studied at Berlin, Heidelberg, and Breslau; and was Professor of Palæontology at Yale from 1866 till his death. He was an authority on the extinct vertebrates

of the Rocky Mountains, having conducted many scientific expeditions thither and discovered more than 1,000 new specimens which he presented to Yale University. He prepared a series of government reports containing an illustrated account of his discoveries. He died in New Haven, Conn., March 18, 1899.

Marshal, a civil officer appointed by the President in each judicial district, and answering to the sheriff of a county. His duty is to execute all precepts directed to him, issued under the authority of the United States. Sometimes police officers in American cities are known as marshals. In some European countries the title of marshal confers the highest military distinction.

Marshall, John, an American jurist; born in Germantown, Va., Sept. 24, 1755. He was educated at home; studied law; was an officer in the Colonial army from 1775 to 1779, where he won distinction, especially on courts-martial, in which he acted frequently as judge-advocate. In 1781 he resigned, and entered on the practice of law. He was elected to the Virginia Legislature, and in 1788 to the Virginia convention that ratified the United States Constitution, where he shared with James Madison the work of influencing its adoption. He went as an envoy to France in 1798, but was superseded on account of his Federalistic views. In 1799 he entered Congress, and in 1800 was appointed Secretary of War, and a little later Secretary of State. In 1801 he was nominated chief-justice of the United States by President John Adams, and confirmed unanimously by the Senate. This office he held 34 years, during which his decisions on constitutional questions established precedents in the interpretation of the Constitution that have been accepted ever since. He died in Philadelphia, July 6, 1835.

Marshall Islands, a group of islands in the W. Pacific, bisected by lat. 10° N., having the Caroline group to the W., and consisting of two parallel chains of low coral reefs — one, the Ratak group, consisting of 15 islands, and measuring in all 48 square miles; the other, the Ralik group, 18 islands, with a total area of 107 square miles. These islands were annexed by Germany in 1885.

Marshalsea, a jail in London, attached to the Marshalsea Court. It will be longest remembered as the home of Dickens's "Little Dorrit."

Marsh Mallow, a softly pubescent plant, with axillary cymes of large rosy leaves.

MARSHMALLOW.
a, flower; *b*, fruit.

Marshman, Joshua, an English missionary; born in Westbury Leigh, England, April 20, 1768; was sent in 1799 by the Baptist Missionary Society to Serampore, where he had Carey, Ward, and others as fellow laborers. He translated a great portion of the Bible into Chinese. He died in Serampore, India, Dec. 5, 1837. His son, John Clark Marshman (1794–1877), founded the first English weekly newspaper in India.

Marsh Marigold, a genus of plants having about five petal-like sepals, but no petals; the fruit consists of several spreading, compressed, many-seeded follicles.

Marston, Philip Bourke, an English poet; born in London, England, Aug. 13, 1850. His life was

a series of losses — of eyesight at three, and afterward of his sister, his promised bride, and his two dear friends, Oliver Madox Brown and Rossetti. His memory will survive through his friendships — with the last and with Watts and Swinburne — rather than through his sonnets and lyrics. He died in London, Feb. 13, 1887.

MARSH MARIGOLD.

Marston Moor, a plain in Yorkshire, England, where a decisive battle was fought between the Royalists under Prince Rupert, and the Parliamentary army under Lord Fairfax and Oliver Cromwell, July 2, 1644.

Marsupialia, or **Marsupiata,** pouched animals or mammals having a marsupium or pouch. The young are born of a small size and imperfect in condition, but are transferred to the marsupium, where they become attached to a long nipple which supplies them with milk. The majority of the species inhabit Australia and its adjacent islands, though the opossums are American.

Martel de Janville, Countess Gabrielle de (pseudonym Gyp), a French novelist; born in the Chateau de Koetsal, Morbihan, France, about 1850. She is the creator of several new types, among them Paulette, Loulou, Bob, etc.; and is a prolific writer.

Marten. A class of flesh-eating, four-footed animals, differing slightly from weasels. They are limited to the N. portion of both hemispheres, ranging S. as far as 35° S. in America; one species, the Indian marten, occurs in Java.

Martha's Vineyard, an island on the S. coast of Massachusetts, 21 miles long, 6 miles in average width.

Martial (Marcus Valerius Martialis), a Latin epigrammatist; born in Bilbilis, Spain, in 43 A. D. His poems, which consist of about 1,500 pieces, are interesting for their allusions to the persons and manners of the times, but abound with indelicacies. He died in Spain about 104.

Martial Law, an arbitrary rule, proceeding from military power and having no immediate or legislative sanction.

Martin, a migratory bird, closely resembling the swallow. It builds a mud nest under the eaves of houses and barns. The sand martin hollows out galleries in sand banks, where it nests and breeds. The sand martin and the house martin are both birds of passage, arriving in spring and departing toward the end of summer.

Martin, Homer Dodge, an American artist; born in Albany, N. Y., Oct. 28, 1836; was chiefly self-taught in painting; opened a studio in New York city in 1862; was elected a member of the National Academy of Design in 1875; and resided in France in 1882–1886. He succeeded in developing a style entirely his own, which was of so high a quality as to place him among the best known of American landscape painters. He died in St. Paul, Minn., Feb. 12, 1897.

Martin, William Alexander Parsons, an American educator; born in Livonia, Ind., April 10, 1827. A missionary originally at Ningpo, China (1850–1860), he founded and directed the Presbyterian mission at Peking, 1863–1868; became Professor of International Law at Tungwen College, Peking, in 1868; president in 1869; was sent by China to the United States and Europe to report on methods of education in 1880–1881; made mandarin of the third rank in 1885, and of the second class in 1898, since which time he has been president of the new Imperial University of China.

Martineau, Harriet, an English reformer, sister of James Martineau; born in Norwich, England, June 12, 1802. She visited the United States in 1834, aiding the abolitionists, and traveled in Palestine and the East

in 1846. She labored under the remarkable disability of being all her life without the senses of taste and smell, and at 16 became very deaf. She died in Ambleside, Westmoreland, England, June 27, 1876.

Martinique, one of the French West India Islands, in the Windward group; 30 miles S. W. of Dominica, and 20 miles N. of St. Lucia. It is of irregular form, high and rocky, about 45 miles long and 10 to 15 broad; area, 380 square miles. Its loftiest summit, Mont Pelee, is 4,450 feet high. There are six volcanoes on the island. Extensive masses of volcanic rocks cover the interior, rise to a great elevation, and extend from the mountains to the shores of the sea, where they form numerous deep indentations along the coast. Between the volcanic rocks broad irregular valleys of great fertility occur. The climate is hot but not unhealthy. Hurricanes and earthquakes are not infrequent. About two-fifths of the island are under cultivation, the remainder being covered with trees or occupied by naked rock or disintegrated pumice stone. The coffee of Martinique is almost as highly esteemed as that of Arabia. The mountain slopes are in most parts covered with primeval forests. In other parts the slopes are cultivated to the height of about 1,400 feet. Numerous streams flow down from the heights, most of them mere rivulets, except during the rainy season which lasts from the middle of July to the middle of October, when they become impetuous torrents. The island has several good harbors, the best of which is Port Royal, on the S. W. side of the island. Since 1870 Martinique has sent two deputies to the National Assembly of France. The island was discovered by the Spaniards on St. Martin's day in 1493, when it was peopled by Caribs, who called the island Madiana. In 1635 it was settled by the French, who eventually extinguished the aboriginal race. It was subsequently taken by the British in 1794 and restored in 1802; it was again taken by the British in 1809 and restored in 1814. It was devastated by a tremendous tornado in 1891 with the loss of many lives. Pop. 189,599.

For years the people of Martinique had lived in perfect safety under the shelter of Mont Pelee. Warnings of impending danger began on May 3, 1902, when the volcano threw out dense clouds of smoke. Hot ashes covered the city of St. Pierre on the 4th; and at noon of the 5th a stream of boiling mud suddenly rushed down the mountain side to the sea. This sudden rush caused the sea to recede some 300 feet and return in a tidal wave of considerable though not serious proportions. Cable communication with Martinique was interrupted in the afternoon of May 6, and the next news filled the world with horror. An entire city of 28,000 inhabitants had been literally wiped out of existence.

From the stories of the few survivors it is gathered that on Thursday, the 8th, at 7:50 A. M., there was a sudden deafening explosion, and immediately the air was filled with hot sulphurous gases which withered everything they touched. An eyewitness at Morne Rouge, a town 4½ miles away, states that there were seven luminous points on the side of the mountain just before the volcano burst, and that the explosion was followed by 10 minutes of absolute darkness. Simultaneously with this explosion a tidal wave tore the vessels in the harbor from their anchorages and wrecked them on the beach. The "Roddam," which had a full pressure of steam on, was the only vessel to escape total destruction, and she worked her way flaming from the harbor, amid a shower of molten matter. In the city almost the entire population was immediately suffocated by the hot, poisonous gases. It is supposed that the destruction was the work of but a few seconds, as delicate fabrics were found uninjured among the badly charred victims. Debris covered the city for a depth of 12 feet. On May 9 there was also an eruption of Mt. Soufriere, St. Vincent. A large loss of life was reported and dust from the volcano spread over the Barbadoes Islands, 75 miles to the E. This eruption had probably a sympathetic connection with that of Mont Pelee.

On the night of Aug. 30, after previous warnings of renewed disturbance, another great eruption occurred, reported as even more violent than that in May. The villages of Morne

Rouge and Ajoupa Bouillon were destroyed, the country from Mont Capote to the Valley of Campflore devastated, and Le Carbet swept by a tidal wave. By official report 1,060 deaths were recorded with 150 persons injured.

Marty, Martin, an American clergyman; born in Schwyz, Switzerland, Jan. 12, 1834; ordained in the Roman Catholic Church; came to the United States in 1860; and was appointed the first superior of a priory that was founded in St. Meinrad, Ind., in 1865. This priory was made an abbey in 1870 and Father Marty raised to a mitred abbot. After several years he began mission work among the Dakota Indians. The Territory of Dakota was organized into a vicariate-apostolic in 1879, and placed under the direction of Father Marty, who was consecrated Bishop of Tiberias, Feb. 1, 1880. He was transferred to the St. Cloud diocese, Minn., 1894. He was the author of a Sioux grammar and dictionary. He died in St. Cloud, Minn., Sept. 19, 1896.

Martyn, Sarah Towne, an American writer; born in Hopkinton, N. H., Aug. 15, 1805. She died in New York, Nov. 22, 1879.

Martin, William Carlos, an American historical writer; born in New York city, Dec. 15, 1841. He was a Presbyterian clergyman in that city. In his works are included "History of the Pilgrim Fathers of New England."

Martyr, one who suffers death or persecution on account of his religious belief. One who, for the sake of a great cause or ruling principle, makes sacrifice of life, estate, or worldly station.

Marwar, or **Jodhpur,** a State of Hindustan, tributary to the British; area, 34,963 square miles; pop. 2,528,178. Capital Jodphur; pop. (1901) est. 76,000.

Mary (Hebrew Miriam), called in the New Testament The Mother of Jesus. The incidents in her personal history recorded in Scripture are few in number, and chiefly refer to the Annunciation and to her relations with our Lord.

Mary, the mother of Mark the Evangelist. She had a house in Jerusalem, where the followers of Jesus were wont to convene.

Mary, the wife of Cleophas, and mother of James the Less and Joses. She believed early in Jesus Christ, and accompanied Him in some of His journeys, to minister to Him; followed Him to Calvary, and was with His mother at the foot of His cross. She was also present at His burial; prepared perfumes to embalm Him, and was early at His sepulcher on the morning of His resurrection.

Mary, the sister of Lazarus, whom our Lord raised from the dead. Her character presents a beautiful companion picture to that of her more active and impulsive sister Martha. Contemplative, confiding, and affectionate, it was like heaven to her to sit at the feet of her Lord. The character of the two sisters was well contrasted at the supper in Bethany, after the resurrection of Lazarus. No service was too humble for Martha to render, and no offering too costly for Mary to pour out, in honor of their Saviour.

Mary, the Magdalene, or native of Magdala, on the Sea of Galilee. She was foremost among the honorable women who ministered unto Christ and His disciples. She was especially devoted to Christ for His mercy in casting out from her seven evil spirits. She was early at His tomb; and lingering there when the disciples had retired, she was the first to throw herself at the feet of the risen Saviour. There is no evidence that she was ever a profligate.

Mary I. (Mary Tudor), Queen of England, daughter of Henry VIII. and his first queen, Catharine of Aragon; born in Greenwich Palace, Feb. 18, 1516. She early espoused her mother's cause during the proceedings for divorce then pending, and thereby became estranged from her father. After the death of Queen Anne Boleyn, in 1549, Mary, though educated a Roman Catholic, was induced to acknowledge the king as head of the Reformed Church of England, and yielded an outward conformity to the successive changes of religion during Henry's reign, thereby securing to herself the succession by act of Parliament passed in 1514. During the reign of her half brother, Edward VI., Mary steadfast-

ly refused to conform to the Protestant religion; which led to the attempt to transfer the succession to the crown to her cousin, Lady Jane Grey, to her own exclusion. This proceeding failed, though Lady Jane was actually proclaimed on Edward's death in 1553, and Mary entered London in triumph. She liberated the imprisoned Roman Catholic prelates. She sent Lady Jane Grey and her husband, Lord Guilford Dudley, to the block on a charge of treason; and proclaimed the repeal of all the laws for the maintenance of the Reformed religion. An insurrection, headed by Sir Thomas Wyat, having for its object the prevention of her union with Philip II. of Spain, was suppressed after considerable bloodshed, and the marriage took place in Winchester in 1554. She died in St. James Palace, Nov. 17, 1558.

Mary II., Queen of England; born in St. James Palace, April 30, 1662. She was daughter of James, Duke of York, afterward James II., by his wife Anne Hyde, daughter of Lord Clarendon. She was married in 1677 to William, Prince of Orange; and when the Revolution dethroned her father, Mary was declared joint-possessor of the throne with William. During the absence of William in Ireland in 1690, and during his various visits to the Continent, Mary managed at home with extreme prudence. She was strongly attached to the Protestant religion and the Church of England. She died of smallpox in Kensington Palace Dec. 28, 1694.

Mary Stuart, Queen of Scots; born in Linlithgow Palace, Scotland, Dec. 8, 1542; was the daughter of James V., by his queen, Mary of Lorraine, a princess of the family of Guise. Her father dying when she was six days old, disputes arose among the nobility about the guardianship of the infant sovereign and the conduct of public affairs. The regency was vested in the Earl of Arran, and Henry VIII. of England having demanded the hand of Mary in marriage for his son Edward, the regent's rejection of the proposal occasioned a war, in which the Scots were defeated. In August, 1548, the young queen was sent to France. On April 24, 1558, she was married to the dauphin, afterwards Francis II. He died in December, 1560, 17 months after his accession to the crown, and in August, 1561, the widowed queen returned to Scotland. Mary had been educated in France as a Roman Catholic. The Scottish Reformation had just taken place (August, 1560), and when she returned she found that the influence of the Protestants was paramount in her kingdom, though she claimed the right of exercising her own religion.

Within a few days after her arrival in Scotland she had an interview with John Knox, hoping she might gain him over to take a more tolerant view of her own adherence to the Roman Catholic ritual, which Knox had the hardihood openly to condemn in the pulpit. She resigned herself to circumstances, and quietly allowed her half-brother, Lord James to assume the position of first minister; surrounded herself with a number of other Protestant advisers, and dismissed the greater part of the train of French courtiers who accompanied her to Scotland. She even gave these ministers her active support in various measures that had the effect of strengthening the Protestant party; but she still continued to have the mass performed in her own private chapel.

This early part of Mary's reign presents a great contrast with the remaining part of it, and indeed with the remainder of her whole life. Her marriage to her cousin, Lord Darnley, was most unfortunate and was the beginning of her downfall. Darnley's part in the murder of Rizzio, an unfortunate Italian who had won the queen's goodwill, alienated her affections from him. The murder of Darnley himself, in which, however, no complicity on the part of Mary has ever been indicated, and her marriage to the Earl of Bothwell, who, probably did have a guilty part in Darnley's death served to hasten her overthrow. First imprisoned by rebellious nobles at Lochleven, then defeated after her escape at Langside, she fled to England. Then began that long imprisonment, with its record of plots and conspiracies for her release, terminating at last in her death. Mary was charged with being implicated in Babington's plot against Elizabeth's life and government, and having been tried

by a court of Elizabeth's appointing was on Oct. 25, 1586 condemned to be executed. There was a long delay before Elizabeth signed the warrant for the sentence to be carried out, but this was at last done on Feb. 1, 1587. Mary received the news of her destined fate with great serenity; wrote her will; and having prepared herself for death by practising the ceremonies enjoined by the Catholic faith suffered decapitation, Feb. 8, 1587, in the castle of Fotheringay, and on Aug. 1 was interred with great pomp in the Cathedral of Peterborough. Her body was subsequently removed by her son, James I., to Henry VII.'s chapel, Westminster, where a magnificent monument was erected to her memory.

Mary's Hill, a locality in Spottsylvania co., Va., in the vicinity of Fredericksburg, which during General Burnside's attack on that town (Dec. 13, 1862) was held by a force of Confederates under General Longstreet. General French, aided by General Hancock, attempted to carry the post by storm, but they were repulsed with a loss of nearly half of their men. Soon afterward General Hooker made a similar attempt, and was also driven back, leaving 2,013 men dead on the field. General Howard's division then came to the assistance of Generals French and Hancock, but met with similar ill fortune. The whole afternoon had now been spent, to no other effect than the loss of over 5,000 Union soldiers, when General Burnside, in spite of the advice and even entreaty of many of his officers, declared that, "That crest must be taken tonight." General Humphreys with 4,000 men, followed in the fatal track of his predecessors, and was also repulsed, with a loss of 1,700 killed and many wounded. The approach of darkness only ended the awful conflict. Subsequently, during the battle of Chancellorsville, Marye's Hill was taken by General Sedgwick, May 3, 1863.

Maryland, a State in the South Atlantic Division of the North American Union; one of the original 13 States; number of counties, 24; area, 9,860 square miles; pop. (1900) 1,190,050; capital Annapolis.

The surface of the State is varied, with three prominent divisions, the Coast Plain, including the Western Shore, between the ocean and Chesapeake Bay; the Piedmont plateau, extending from the bay W. to the Catoctin Mountains, and the Appalachian mountain region. The Chesapeake Bay cuts the State in two parts, and with its principal affluent, the Potomac river, forms the principal water system. The mountains in the W. are divided into three ranges, the Blue Ridge, Appalachian, and Alleghany, and reach an elevation of 3,000 feet. The Atlantic coast has no good harbors, but the bay with its numerous coves, and estuaries gives excellent facilities for water transportation. The principal rivers are the Potomac on the S. boundary, the Susquehanna flowing in from Pennsylvania on the N. and emptying in the bay.

The climate is equable, and not subject to sudden changes, the thermometer seldom falling below zero.

The mineral productions are not extensive, the principal output being coal. The agricultural advantages of Maryland are quite noteworthy. The principal farm crops in 1900 were wheat, corn, oats, rye, buckwheat, potatoes and hay. The principal manufactures include fertilizers, flour, machinery, furniture, iron and steel, lumber and timber products, paper, etc.

School attendance is general, and the public schools are of a high grade. For higher education there are 48 public high schools, 37 private secondary schools, 1 public, and 3 private normal schools, 11 colleges and universities for men and both sexes, and 5 colleges for women. The most noted colleges include Johns Hopkins University and University of Maryland at Baltimore.

The strongest denominations in the State are Roman Catholic; Methodist Episcopal; Protestant Episcopal; Lutheran, General Synod; African Methodist; Methodist Protestant; Reformed; Methodist Episcopal, South; Presbyterian, North; and Regular Baptist, South.

The governor is elected for a term of four years, and receives a salary of $4,500 per annum. Legislative sessions are held biennially in even years, beginning on the first Wednesday in January, and are limited in length to 90 days. The Legislature has 26 members in the Senate and 91 in the House, each of whom receives $5.00

per day. There are 6 representatives in Congress.

The earliest settlement in Maryland occurred in 1631, in which year a party of English from Virginia, under Capt. William Clayborne, established themselves on Kent Island in Chesapeake Bay. The main colonization of this region, however, was made in 1634 by a body of English Roman Catholic cavaliers under a charter granted to the 2d Lord Baltimore by Charles I., bearing date June 20, 1632. The expedition sailed from England in November, 1633, and landed on St. Clement's Island in March, 1634, founding the settlement of St. Mary's, on the mainland, two days after their arrival. Leonard Calvert was elected first governor, and a House of Assembly established in 1639, which, 11 years later, was divided into two houses — the one consisting of members chosen by the Proprietary, and the other by the Freemen. Puritans exiled from Virginia made themselves masters of the province in 1644. Two years later, Governor Calvert returning at the head of a considerable military force, succeded in reëstablishing his authority. In 1654 a civil war ensued, in which the Puritans were eventually victorious in 1655. At length, after the restoration of Charles II., the Proprietary was reinstated. In 1729 Baltimore was founded. Frederick City was laid out in 1751, and the colony progressed rapidly in wealth and population. In 1774 the Stamp Act, and the act levying a duty on tea, met with resolute and active opposition from the Marylanders, who, assembled in convention, abolished the Proprietary government and substituted therefor a Committee of Public Safety. In 1776 a convention of the people adopted a bill of rights and a constitution; in the following year the first elected Legislature was convened at Annapolis, and in March, Thomas Johnson took office as the first republican governor. During the Revolution the Marylanders bore a highly distinguished part, participating in nearly every battle of the war. During the campaign of 1812 Maryland suffered severely from the naval operations of the British. The militia of the State vainly opposed the march of the English army to Washington in 1814. In the same year occurred the battles of Bladensburg and North Point; in the former of which the enemy was successful, while in the latter the British General Ross was killed, and the Americans gained a slight advantage. An attack (Sept. 14–16) on Baltimore by the enemy's fleet was successfully repelled. At the outbreak of the Civil War, in 1861, the Marylanders were divided in sentiment, many of the people being in sympathy with the Confederates, though the State remained loyal to the National cause. During a series of Confederate invasions from Virginia during the war, the State became the theater of important military operations and sanguinary engagements. In the year 1880 Baltimore celebrated its 150th anniversary with a week of festivities, and in 1884 the 250th anniversary of the landing of the colonists was celebrated. In 1891 a monument was erected to Leonard Calvert, the first governor, on the site of the old city of St. Mary's, the first capital of the State.

Maryville College, a coeducational institution in Maryville, Tenn.; founded in 1819 under the auspices of the Presbyterian Church.

Masai, a people of East Equatorial Africa, dwelling in a district that includes Kilimanjaro, Kenia, and Lake Baringo. The S. half of the district is low and barren, with no rivers and little rain, while in the N. it rises into a plateau region, rich in running streams, forests, and grass land. The Masai are not a Negro or Bantu race; they resemble the Gallas, being men of magnificent stature, though their faces are ugly and ferocious in expression. This is due to the warlike habits of their youth, when, for nearly a score of years, they live in military kraals, spending their time in alternate idleness and on the warpath. After marriage, which takes place when they lay aside the habits of the warrior, they settle down as cattle breeders.

Masaniello, the commonly received name of Tommaso Aniello, a fisherman of Naples; born in Amalfi in 1623. He headed the populace in their revolt against the Spanish viceroy in 1647, when only 25 years of age. His career lasted but nine days, in which time he had 150,000 men under his orders and was elevated to

sovereign authority. He was murdered by four assassins at Naples, July 16; and as the resistance he commenced never ceased till the Spanish yoke was broken, he has since been venerated as the liberator of his country.

Mascagni, Pietro, an Italian composer; born in Leghorn, Tuscany, Dec. 7, 1863. He produced a one-act opera "Cavalleria Rusticana" in competition for a prize.

Mascalonge, a fine North American fresh-water fish of the pike genus, inhabiting the St. Lawrence basin.

Mascot, one who or that which is supposed to bring good luck.

Mashona, a Bantu tribe belonging to the Kaffir family inhabiting Mashonaland.

Mashonaland, a country in the interior of Africa. It forms part of British Zambesia, and is situated N. E. of Matabeleland. It consists of very fertile plateaux and plains, watered by numerous rivers.

Masinissa, King of ancient Numidia; born about 238 B. C. His acquisition of a number of Carthaginian provinces led to the third Punic war, in the second year of which he died (148 B. C.), aged about 100 years. His kingdom, at his own desire, was divided among his three sons.

Mason, Caroline Atherton (Briggs), an American verse-writer; born in Marblehead, Mass., July 27, 1823. She wrote, "Do They Miss Me at Home?" She died in 1890.

Mason, James Murray, an American legislator; born on Mason's Island, Fairfax co., Va., Nov. 3, 1798; was United States Senator from Virginia from 1847 till expelled in July, 1861; drafted the "fugitive slave law" in 1850; was sent by Jefferson Davis as Confederate commissioner with John Slidell to England and France in 1861, and was captured on the "Trent," Nov. 8, and kept in Boston as a prisoner of war till Jan. 2, 1862. He died near Alexandria, Va., April 28, 1871.

Mason, Sir Josiah, an English philanthropist; born in Kidderminster, England, Feb. 23, 1795; began life by selling cakes on the street. He began to make pens in 1829, and his business increased till he became the largest penmaker in the world. He died in Erdington, England, June 16, 1881.

Mason, William Ernest, an American legislator; born in Franklinville, N. Y., July 7, 1850; removed with his parents to Bentonsport, Ia., in 1858; was admitted to the bar and began practice in Chicago, Ill.; member of the Illinois General Assembly, and of the State senate; of Congress; and elected United States Senator in 1897, in which capacity he was an ardent advocate of Cuban independence.

Mason and Dixon's Line, in United States history, a line popularly regarded as dividing the slaveholding from the non-slaveholding States. In reality it ran for more than one-third of its length between two slave States, Maryland and Delaware. It was run by two English engineers, Charles Mason and Jeremiah Dixon, between the years 1764 and 1767, for the purpose of settling the disputed boundaries between Maryland on the one side and Pennsylvania and Delaware on the other. The work was done with such skill and accuracy that a revision in 1849, with instruments of much greater precision, disclosed no error of importance.

Masonry, the art or occupation of a mason; the art of so arranging stones or brick as to produce a regular construction.

Maspero, Gaston Camille Charles, a French Egyptologist; born of Italian parents, in Paris, France, June 23, 1846. In 1881 he founded a school of Egyptian archæology at Cairo, and succeeded Mariette as director of explorations and custodian of the Boulak Museum. As an explorer he excavated or opened the pyramids of the kings belonging to the 5th and 6th dynasties, and the burial fields of Sakkara and Dashur, and discovered new sepulchral sites of great value at Deir el-Bahari, near the entrance to the Valley of the Tombs of the Kings, at Eckmin, 130 miles S. of Thebes, and at other places.

Masquerade, a species of amusement, in which persons of both sexes mask or disguise themselves, and engage in dancing, festivities, or miscellaneous conversation.

Mass, in Roman Catholic theology and ritual, "the perpetual sacrifice of the new covenant, in which the body and blood of Jesus Christ are really and truly offered to God under the species of bread and wine."

Massachusetts, a State in the North Atlantic Division of the North American Union; one of the original 13 States; number of counties, 14; area, 8,040 square miles; pop. (1900) 2,805,346; capital, Boston.

The surface of the State is mostly rough and rugged, with irregular mountain systems. The coast counties are, however, mostly level, with low, rounded hills, and rocky eminences on the coast. Cape Cod is a low, sandy arm of land extending in a semicircle around Cape Cod Bay. There are numerous salt marshes in the E. part of the State. The W. part of Massachusetts is traversed by two mountain chains, the Taconic and the Hoosac, the latter a continuation of the Green Mountains of Vermont. Between these ranges is the Hoosac valley, which at its N. end is 1,100 feet above the sea. Mount Greylock and Mount Washington are the highest points in the State. A rugged tableland 1,000 feet high extends E. from the Hoosac range to the Connecticut river valley, with a series of trap ridges reaching their highest elevation in Mount Tom and Mount Holyoke. The valleys of the Connecticut and Housatonic are noted for their beautiful scenery. The coast line is very irregular, being indented by numerous bays, the largest being Massachusetts, Cape Cod, and Buzzards, all affording excellent harbors. The Connecticut, with its tributaries, forms the principal river system of the State.

Massachusetts ranks first in the United States in the production of granite. Most of the soil is too rocky for cultivation and is suited only for pasturage.

Massachusetts is preëminently a manufacturing State. The abundant water supply and transportation facilities give the State opportunities for the most varied manufactures. Lowell is noted as the largest carpet milling city in the United States. Worcester has the largest steel wire works in the world, and Holyoke ranks first in paper manufacturing, North Easton in shovels, and Lynn in electrical instruments. Lawrence is noted for its cotton and woolen mills; Haverhill, for shoe factories; Dalton, for note paper; Taunton, for cotton and silverware; Chicopee, for bronzes, automobiles and cotton; Roxbury, for rubber goods; Wakefield, for rattan; Fitchburg for tools; etc. According to the census of 1900 there were 29,180 manufacturing establishments, employing $823,264,287 capital and 525,308 persons; paying $259,498,072 for wages and $552,717,955 for materials; and yielding a combined product valued at $1,035,198,989.

The imports of merchandise at the ports of Barnstable, Boston and Charlestown, Edgartown, Fall River, Gloucester, Marblehead, New Bedford, Newburyport, Plymouth, Salem and Beverly, for 1900, aggregated in value $68,835,361; and the exports, $123,897,392. The imports of gold and silver amounted to $92,737; and exports, $15,000. The collections of internal revenue in the State during the year ending June 30, 1900, amounted to $7,953,570.

In 1900 the school population was 641,500, the enrollment in public schools, 474,891, and the average daily attendance, 366,136. There were 13,575 teachers; 3,395 buildings used for public school purposes. Among the most noted colleges are Harvard University at Cambridge; Amherst College, at Amherst; Boston University, at Boston; Williams College, at Williamstown; and College of the Holy Cross, at Worcester. The women's colleges include Radcliffe College, at Cambridge, Mount Holyoke College, at South Hadley; Smith College, at Northampton; and Wellesley College, at Wellesley.

The strongest denominations in the State are the Roman Catholic; Congregational; Regular Baptist; Methodist Episcopal; Unitarian; Protestant Episcopal; Spiritualist; and Universalist.

The governor is elected for a term of one year and receives a salary of $8,000 per annum. Legislative sessions are held annually beginning on the first Wednesday in January, and are not limited as to length of time. The legislature has 40 members in the Senate and 244 in the House, each of

whom receive $750 per annum and mileage. There are 13 representatives in Congress.

The history of Massachusetts begins with the landing of the Pilgrims at Plymouth in 1620, though it is probable that portions of the coast were temporarily settled by Norwegians as early as A. D. 1000. In 1628 another colony was established at Salem, and both were united under one government with Maine in 1692. In 1675, an Indian chief, named Philip of Pokanoket, or King Philip, began a war which had for its object the entire extermination of the English. This war lasted three years, and was only ended by the death of King Philip himself.

When the oppressive measures of the English Parliament finally brought about the rupture with the colonies, none took a more active or more prominent part than Massachusetts in the National cause. The passage of the Stamp Act aroused the wildest excitement; and its repeal the following year was received with demonstrations of joy. The arrival of the "Romney" man-of-war renewed the excitement, and Massachusetts issued a circular letter to the colonies, which the British ministry in vain commanded the authorities to rescind. Then followed the Boston massacre in 1770, the destruction of the tea in 1773, and the Port Bill in 1774. The Revolutionary War had its outbreak in Massachusetts, the bloodshed at Lexington and the contest at Concord being the incidents that led to the war. Its earliest event was the siege of Boston, made notable by the battle of Bunker Hill, the acceptance of the command by Washington at Cambridge, and the evacuation by the British. In 1780 a constitution was framed for the State, and adopted by popular vote. On the breaking out of the Civil War in 1861 Massachusetts was among the first to offer assistance to the National cause; and, till the final success of the Federal army, continued to perform a patriotic and liberal part.

Massachusetts, The, a first-class, twin screw, steel battleship of the American navy; length 348 feet; breadth 69 feet, 3 inches; mean draft 24 feet; main battery four 13-inch, eight 8-inch, and four 6-inch rifles; secondary battery 31 rapid-fire guns of small calibre. Speed 16.21 knots; crew, 32 officers and 441 men; cost, $3,020,000.

Massachusetts Agricultural College, a coeducational non-sectarian institution in Amherst, Mass.; founded in 1863.

Massachusetts Bay, a large bay to the E. of the central part of Massachusetts; bounded on the N. by Cape Ann, and on the S. by Cape Cod.

Massachusetts Institute of Technology, a coeducational, non-sectarian institution in Boston, Mass.; founded in 1865.

Massage, a scientific method of curing disease by systematic manipulations.

Massagetae, a wild and warlike people who inhabited the broad steppes on the N. E. of the Caspian Sea, to the N. of the Araxes or Jaxartes river. Cyrus is said to have lost his life in fighting against them, 530 B. C.

Massasoit, Indian chief; born in Massachusetts about 1580. His dominions comprised the district in the S. E. part of Massachusetts between Cape Cod and Narragansett Bay. In March, 1621, three months after the landing of the Pilgrims, he sent a warrior named Samoset to Plymouth who shouted in English, which he had learned from Penobscot fishermen, "Welcome Englishmen!" Later Massasoit visited the Pilgrims in person and arranged a treaty of friendship in which both sides promised to refrain from all overt and hostile acts and to aid each other if either were unjustly attacked. This is the oldest diplomatic act recorded in the history of New England and was faithfully kept for 54 years. When Roger Williams, who was exiled from the Massachusetts colony, was on his way to Providence he was cared for by Massasoit for several weeks. Massasoit died near the present Warren, R. I., in 1660.

Master, in the navy, an officer who navigates a ship under the direction of the captain. Also the captain of a merchant vessel.

Masterwort, a perennial herb, a native of North America, and Northern Europe.

Mastic, a kind of mortar or cement used for plastering walls.

Mastiff, a variety of dog of an old English breed. It is faithful and affectionate, and makes an excellent watchdog. A Cuban mastiff is intermediate in size between the English variety and the bulldog, it is extremely savage, and was used in the days of slavery for tracking runaway negroes.

Mastodon, an extinct genus of proboscideans, closely allied to the true elephants. The genus ranged in time from the middle of the Miocene period to the end of the Pliocene in the Old World, when they became extinct. In America several species survived to a late Pleistocene period.

In 1897 the skeleton of a mastodon, the largest yet discovered, was unearthed on a farm near New Paris, O. It was found in what had evidently at one time been a morass, and was buried 10 feet below the surface, where from all indications it had lain for centuries. It was very nearly perfect, and though some of the bones crumbled away on exposure to the air, they were cleverly replaced, and the skeleton was set up at Earlham College, Ind., where it has been visited by scientific men from many foreign countries. An entire fossil monster of this kind is extremely rare, and besides this one there are only two others in existence, one of these being in the British Museum and the other in Boston. The estimated weight of this creature when living was about 10 tons, its skull, complete, alone weighing considerably over 300 pounds. The skeleton stands 11 feet 2 inches high, and its length, from forward curve of tusks to backward curve of tail, is 20 feet 2 inches.

MASTODON.

Matador, in Spanish bull fights the man appointed to administer the fatal stroke to the bull, when excited to fury by the attacks of the picadores and banderilleros.

Match, anything which readily catches fire, either from a spark or by friction, and is used for conveying, communicating, or retaining fire; specifically, a splint, one end of which is dipped in a composition that ignites by friction.

Mate, in the mercantile navy, is the officer who acts as the deputy of the master, taking his place during his absence. They are of four grades — first, second, third, and fourth mate.

Mate, the plant that yields Paraguay tea. A kind of holly.

Materialism, the system of philosophy which regards Mind as a function of matter; the mechanical theory of the Universe.

Materia Medica, a general term for the different medicines employed for curative purposes.

Mathematics, the science in which known relations between magnitudes are subjected to certain processes which enable other relations to be deduced.

Mather, Cotton, an American clergyman; born in Boston, Mass., Feb. 12, 1663. After graduating at Harvard College in 1678 and early manifesting a truly Puritan spirit of austerity, he devoted himself to theological studies, and in 1684 was ordained as his father's colleague in the

pastorate of the North Church, Boston. More notably did he distinguish himself as the self-called exterminator of witchcraft; in relation to which delusion he published, in 1685, his "Memorable Providences relating to Witchcraft and Possessions." Following this diatribe against demonology appeared in London a discourse from his pen, pronouncing witchcraft "the most nefandous high treason against the Majesty on high,"—with a preface by Richard Baxter. In 1692 he produced his "Wonders of the Invisible World," and from this time forward till his death wrote voluminously, his chief work being "Illustrations of the Holy Scriptures." The latter years of his life were passed in comparative obscurity. Died in Boston, Mass., Feb. 13, 1728.

Mather, Increase, an American clergyman; born in Dorchester, Mass., June 21, 1635. Educated at Harvard College, where he took his degree in 1656. In the following year he went to England, where he obtained preferment and was greatly distinguished for his urbanity and integrity; but in consequence of his Nonconformist opinions was obliged to return to his native colony, where he was appointed minister at Boston; in 1684 was elected president of Harvard College. He died in Boston, Mass., Aug. 23, 1723.

Mathew, Theobald, an Irish reformer; born in Thomastown Castle, near Cashel, Ireland, Oct. 10, 1790; was ordained in the Franciscan order. On April 10, 1838, he signed a total abstinence pledge and began a temperance crusade. He traveled over all parts of Great Britain and Ireland, and in the United States. In the course of the first five months of his work he administered the pledge at Cork alone to over 150,000. The immediate results of his preaching were a marked decrease in crime and intoxication, accompanied by a reduction in the duties of Irish spirits of nearly three millions of dollars in a period of five years. The permanency of his work was largely destroyed, however, by the Irish famine, which he also did more than any one else to relieve. Thousands of Father Mathew Total Abstinence Societies have been organized throughout the world in his honor. Died in Queenstown, Dec. 8, 1856.

Matin, a dog considered by the French to be the progenitor of all breeds that resemble, and yet cannot be classed with the greyhound. It is commonly employed in France as a sheep dog and watchdog.

Matins, the daily office of Morning Prayer in the Anglican communion. In the Roman Catholic Church, the first portion of the Divine Office with which Lauds are usually associated.

Matterhorn, a peak of the Alps between the Swiss canton of Valais and Piedmont, rising to the altitude of 14,705 feet. The actual peak was first scaled by Lord Francis Douglas, the Rev. C. Hudson, Hadow, and Whymper, with three guides, July 14, 1865, when the three first-named and one of the guides fell over a precipice and were killed.

Matthew, an apostle of Jesus, almost certainly the same as Levi, the son of Alpheus. He was a "publican"—a taxgatherer—who sat at the receipt of custom at Capernaum on the shore of the Sea of Galilee. He was regarded as outside the pale of society, and his companions, when he was called to the apostleship, were "publicans and sinners." After his call he figures in all the lists of apostles.

The Gospel according to St. Matthew, the first of the four Gospels in arrangement, and long most universally held to have been the first in point of publication. The author's name is nowhere given in it, but universal Christian tradition assigns it to Matthew, and there is a fragment of internal evidence in the same direction. In connection with the call of Matthew the first Gospel relates that "as Jesus sat at meat in the house, behold many publicans and sinners came and sat down with Him and His disciples." St. Luke says that "Levi (Matthew) made him a great feast in his own house; and there was a great company of publicans and of others that sat down with them." If the author of the first Gospel felt diffident about recording the hospitality of Matthew, the only reason can be that he was Matthew himself. The special object of the first Gospel was to show that Jesus was the Messiah of ancient prophecy. The author continually quotes the Old Testament prophets,

sometimes indicating that the events took place to fulfil the prophecy, at others simply that they fulfilled the prophecy. The book was addressed specially to the Jews.

Matthew is the only evangelist who reports at length the Sermon on the Mount. He gives prominence to other discourses of Jesus. Like his fellow synoptists he gives details of the ministry of Jesus in Galilee, not speaking much of Jerusalem till the closing scenes drew nigh.

Matthews, (James) Brander, an American author; born in New Orleans, La., Feb. 21, 1852. He was graduated at Columbia College in 1871, and from Columbia Law School in 1873, being admitted to the bar the same year. He soon turned to literature. In fiction steadily gained in reputation, his short studies of New York city life in the realistic vein being among the very best of their kind. Since 1892 he has been Professor of Literature in Columbia University.

Matthias, one of the 70 disciples of Jesus Christ who was chosen by lot, in preference to Joseph Barsabas, into the number of the apostles, to supply the deficiency caused by the treachery and suicide of Judas. Nothing is known of his subsequent career.

Matthias, Emperor of Germany; born in Vienna, Feb. 24, 1557. At the age of 21 he was sent by the Emperor Rudolph II. to take the government of the Low Countries, but he was unequal to the task, and in a few years returned. In 1592 he commanded the army against the Turks in Hungary, and three years later became heir presumptive by the death of his brother Ernest. He was elected King of Hungary in 1607, King of Bohemia in 1611, and on the death of Rudolph in the following year he was chosen emperor. He resigned the crown of Bohemia to his cousin Ferdinand in 1617, and the persecution of the Protestants in that country by the latter occasioned the Thirty Years' War. He died broken down by the sense of the calamities impending over his dominions, March 20, 1619.

Matthias Corvinus, called the Great, King of Hungary and Bohemia; born in Klausenburg, March 27, 1443. He was the son of John Hunniades. The enemies of his father confined him in prison in Bohemia; but, on regaining his liberty he was elected King of Hungary in 1458, when only 15 years of age. His election was opposed by many of the Hungarian magnates, who offered the crown to Frederick III. The Turks invaded the country, but were expelled by Matthias, who compelled Frederick to yield to him the crown of St. Stephen, of which he had obtained possession. The war was afterward renewed, and Matthias, overrunning Austria, took Vienna and Neustadt; on which the emperor was obliged to make peace, in 1487. He died in Vienna, April 6, 1490.

Maturin, Edward, an American novelist; born in Dublin, Ireland, in 1812. In 1832 he came to America with letters of introduction from Thomas Moore and other literati. He died in New York city, May 25, 1881.

Mauna Loa, a volcano in the Sandwich Islands near the center of Hawaii; height, 13,600 feet.

Maurice, Prince of Orange and Count of Nassau, son of William the Silent; born in Dillenburg, Prussia, Nov. 13, 1567. After his father's assassination in 1584, the provinces of Holland and Zealand, and afterward Utrecht and the others, elected him their stadtholder. A great portion of the Netherlands was still in the hands of the Spaniards; but, under the leadership of Maurice, the Dutch, aided by an English contingent under the Earl of Leicester and Sir Philip Sidney, rapidly wrested cities and fortresses from their enemies. Finally, in 1609, Spain was compelled to acknowledge the United Provinces as a free republic. He died in The Hague, April 23, 1625.

Mauritia, a genus of palms. Natives of tropical parts of South America. The leaves are fan-shaped. Some species rise to the height of 100 or even 150 feet. The moriche, or sea palm, grows along the Amazon, Orinoco, etc., and furnishes a kind of sago.

Mauritius, or **Isle of France,** an island in the Indian Ocean, a colony of Great Britain, 500 miles E. of Madagascar; of an oval form, about 40 miles long from N. E. to S. W., and 25 miles broad, and surrounded by coral reefs; area, 705 square miles;

pop. est. 378,872, two-thirds originally coolies imported to work the sugar estates. It is composed chiefly of rugged and irregular mountains, the highest, the Montagne de la Riviere Noire, 2,700 feet, and the isolated rock Peter Botte, 2,600 feet. Between the mountains and along the coast there are large and fertile plains and valleys, having a rich soil of black vegetable mould or stiff clay. The climate is pleasant during the cool season, but oppressively hot in summer. Principal towns, Port Louis and Mahebourg. May, 1892, it was visited by a terrible hurricane, one-third of Port Louis being destroyed.

Maury, Dabney Herndon, an American military officer; born in Fredericksburg, Va., May 21, 1822; was graduated at the United States Military Academy in 1846; served with distinction in the Mexican War; and was instructor in the United States Military Academy in 1847–1852. When the Civil War broke out he resigned his commission in the United States army and joined the Confederate forces; was made department commander of the Army of the Gulf, in which capacity he served till the surrender of General Lee. Under President Cleveland's first administration he was minister to Colombia. He died in Peoria, Ill., Jan. 11, 1900.

Maury, Matthew Fontaine, an American scientist; born in Spottsylvania co., Va., June 14, 1806; joined the United States navy in 1825; met with an accident in 1839 which crippled him for life, and was then given charge of the Hydrographic Office in Washington. In 1844, when that office was united with the Naval Observatory, he became superintendent. In 1861 he resigned his post; entered the Confederate navy; established the naval submarine battery service at Richmond; and was engaged in Europe in perfecting a torpedo system till the end of the war. In 1865 he went to Mexico, was appointed a member of Maximilian's cabinet, and was sent to Europe on a special mission by the emperor. After Maximilian's fall he resumed his scientific and literary work. In 1871 he accepted the presidency of the University of Alabama. He died in Lexington, Va., Feb. 1, 1873.

Mausoleum, a magnificent tomb, or stately sepulchral monument. The name is derived from Mausolus, King of Caria, to the memory of whom his queen, Artemisia, erected a splendid monument at Halicarnassus, 353 B. C.

Mauvaises Terres ("bad lands"), the name given to desolate tracts of land in various parts of the W. States.

Maxilla, plural **Maxillae,** two bones of the face — maxilla superior, the upper jaw, and maxilla inferior, the lower jaw or mandible.

Maxim, Sir Hiram Stevens, an American inventor; born in Sangerville, Me., Feb. 5, 1840; removed to England in 1881. He patented numerous inventions, including incandescent lamps, self-regulating current machines, the "Cordite" smokeless powder, etc; but was best known as the inventor of the Maxim gun. He is at present devoting his energies to a flying machine, and the public are looking forward with interest to his coming experience in a field in which so many have failed.

Maximilian I., Emperor of Germany, son of Frederick III.; born in Neustadt, March 22, 1459. He assembled the Diet at Augsburg, at which Luther appeared on citation, and appealed to the Pope. Maximilian was not only ambitious of dominion, and successful in his schemes of aggrandizement, but he had the desire to be Pope and to be canonized. He died in Wels, Upper Austria, Jan. 12, 1519.

Maximilian, so-called Emperor of Mexico, known in his earlier life as Ferdinand Maximilian Joseph, Archduke of Austria; born in Vienna, July 6, 1832; was the second son of the Archduke Francis Charles, and younger brother of Francis Joseph I., Emperor of Austria. After receiving a careful education he entered the Austrian navy in 1846, and after holding various subordinate commands he obtained the rank of rear-admiral, and was placed at the head of the Austrian marine. Quitting the naval service he was appointed Governor of the Lombardo-Venetian kingdom, February, 1857, and on July 27 following he married Princess Charlotte of Belgium, daughter of King Leopold I. On his return from a voyage made to Brazil for scientific purposes he fixed

his residence at Miramar, in the vicinity of Trieste, and there, Oct. 3, 1863, he received a deputation from the Mexican Assembly of Notables, who offered him the crown of their country. His scruples having been overcome, and having conditionally renounced his rights as an Austrian prince, he formally accepted the Mexican crown, April 10, 1864. Embarking in an Austrian frigate a few days later he landed at Vera Cruz on May 29, and entered Mexico on June 12. The decree of Oct. 3, 1865, in virtue of which the members of the Juarist bands and those who abetted them were shot, alienated the party of the Liberals. President Juarez raised the standard of independence; jealousies and misunderstandings arose with Bazaine; the impatience of the French people under the cost of the expedition, and the representations at the cabinet at Washington, which reprobated the idea of European interference in attempting to establish a monarchy on the continent of North America, and notified the Emperor Napoleon to withdraw his troops;—all these complications and misfortunes thickening around Maximilian rendered his position critical in the extreme. The empress in vain undertook a mission to Europe to enlist support for her husband, and grief and disappointment overthrew her reason. The French were forced to retire; but Maximilian decided to remain in the hope of being able to maintain the empire. While bravely defending Queretaro against a Liberal force under Escobedo, he was betrayed by General Lopez on the night of May 14, 1867. By order of the Liberal minister of war he was, along with two of his generals, tried by court-martial and condemned to be shot. The representations of the various European powers failed to arrest the execution of the sentence, which was carried into effect at seven in the morning of July 19. His body was surrendered to his relatives, and his funeral celebrated with great pomp in the cathedral at Vienna on Jan. 18, 1868.

Maximinus, Caius Julius Verus, a Roman emperor. He was of barbarian origin, and was at first a shepherd in Thrace. He was a monster in size, strength, voracity, and ferocity, and when about 20 years of age became a soldier in the Roman armies. His capacity for fighting procured his rapid advancement, and under Alexander Severus he had the command of a legion with which he served on the Rhine. In A. D. 235 he took part in a conspiracy against Alexander, and on his murder by the soldiers was proclaimed emperor. He continued the war in Germany and devastated a large tract of country. He next laid siege to Aquileia, which made heroic resistance to the hated tyrant. He was there murdered by his soldiers, together with his son, in 238. It is said that Maximinus was eight feet high, that he could eat 40 pounds of meat a day, and could break the leg of a horse with a kick.

Maximum, the greatest quantity or degree fixed, attainable, or attained, in any given case, as opposed to minimum, the smallest.

Maxwell, William Hamilton, an Irish novelist; born in Newry, County Down, Ireland, in 1792. He may be called the father of the military novel. After serving as an infantry captain, he became rector of Ballagh. There not being a Protestant in his parish, he devoted his ample leisure to field sports and literature. He died near Edinburgh, Scotland, Dec. 29, 1850.

May, the 5th month of the year, having 31 days. It was the 2d in the old Alban calendar, 3d in that of Romulus, and 5th in that of Numa Pompilius. In the Alban calendar it only had 26 days, in the calendar of Romulus 31 days, and in that of Numa 30 days. The odd day of which Numa deprived it was restored by Julius Cæsar.

May, Samuel Joseph, an American reformer; born in Boston, Mass., Sept. 12, 1797. He was a Unitarian minister, his longest settlement being at Syracuse. He was one of the first and stanchest abolitionists. He died in Syracuse, N. Y., July 1, 1871.

Maya Indians, a race of aborigines of Yucatan, supposed to be the builders of Uxmal, Palenque, Chichen Itza, etc. Their history is important as throwing light on the civilization of the Central and South American races. The Mayas were the most advanced of

the North American aboriginal races, but today they are sadly degraded. Old Spanish records, a very few Maya books with old picture-writing, several MSS. written by Mayas in Maya, and ruined cities, grave-mounds, and relics attest their former condition. They surpass all American tribes in their architecture and in their carving in stone.

Though entirely without iron tools, these people were able to erect fine buildings of stone, carved with remarkable and beautiful designs. In the wild forests of Yucatan and Central America, in the midst of dense tropical woods, overgrown with trees and tangled vines, are the deserted ruins of upward of 40 ancient towns. These different towns were connected by paved roads of stone. In many cases the buildings were set upon a great flat-topped mound, with sloping sides and rectangular base and summit, strikingly like some of the "temple mounds" of the Southern States. Up one side of these mounds was a flight of stone steps, guarding the base of which were frequently a pair of great serpents or some wild beast carved in stone. The buildings themselves are very long, flat-topped, one story high, and contain many rooms. There are also temples for purposes of worship. In such there is usually found a tablet in the wall and an altar for sacrifice. The interior decoration of rooms was often elaborate, the walls being covered with stucco, on which were painted in brilliant colors paintings which furnish much information of the dress, manners, gods, and worship of the people.

May Apple, the fruit of a ranunculaceous plant growing in New Mexico. It is a low herbaceous plant, having the white flowers hidden by the overshadowing broad leaves.

Maybrick, Florence Elizabeth, an American; born in Mobile, Ala., in 1862, her father being William G. Chandler of that city. In 1881 she married James Maybrick, a cotton merchant, more than twice her age. He died in Liverpool, England, May 11, 1889. Mrs. Maybrick was accused of causing his death by administering arsenic, was tried in Liverpool in August following, found guilty and condemned to death. The sentence was commuted to imprisonment for life. It is stated in 1903 that she has inherited a large estate. Repeated efforts have been made to obtain her release but in vain.

Mayer, Alfred Marshall, an American physicist; born in Baltimore, Md., Nov. 13, 1836. From 1871 till his death he was Professor of Physics in Stevens Institute of Technology, Hoboken, N. J. He published "The Earth a Great Magnet"; etc. He died in Maplewood, N. J., July 13, 1897.

Mayer, Brantaz, an American journalist; born in Baltimore, Md., Sept. 27, 1809. He was a lawyer by profession; was attached to the American legation in Mexico, 1841–1842; served in the Civil War. He wrote several works on Mexico. He died in Baltimore, Feb. 23, 1879.

Mayflower, the vessel in which the Pilgrim Fathers sailed for this country.

Mayhew, Henry, an English author; born in London, England, Nov. 25, 1812. He was educated at Westminster School; made a voyage to Calcutta on a ship of war; returned and entered the law office of his father; started a comic paper called "Figaro" in London, which was succeeded by "Punch" (1814), of which he was one of the promoters. He died July 25, 1887.

Maynard, Edward, an American inventor; born in Madison, N. J., April 26, 1813; appointed a cadet in the United States Military Academy, but resigned owing to poor health. In 1835 he graduated in dental surgery and moved to Washington, where he practised till 1890, inventing many surgical instruments. He is best known for his inventions of firearms. His breech-loading rifle, patented in 1851, and known by his name, was the forerunner of the modern improved rifle. He died in Washington, D. C., May 4, 1891.

Maynard, Horace, an American statesman; born in Westboro, Mass., Aug. 30, 1814; was graduated at Amherst College, in 1838; was admitted to the bar; member of Congress from Tennessee in 1857–1863. He was a Union man during the Civil War and suffered heavy losses of property; was

again in Congress in 1866–1875. In 1875 he was appointed minister to Turkey and in 1880 Postmaster General. He died in Knoxville, Tenn., May 3, 1882.

Mayo, Robert, an American historian; born in Powhatan co., Va., April 25, 1784; died in Washington, D. C., Oct. 31, 1864.

Mayor, the chief magistrate of a city or corporate town. In the United States the mayor is elected by the qualified voters of the city for a certain term of years.

Mayo-Smith, Richmond, an American educator; born in Ohio in 1854; was graduated at Amherst College in 1875; studied at Berlin University in 1875–1877; then returned to the United States and became a teacher of history in Columbia University. In 1878 he was made an adjunct professor there, and in 1883 accepted the chair of Political Economy and Social Science. He died in New York city, Nov. 11, 1901.

Mayotte, or Mayotta, an island in the Indian Ocean, one of the Comoros, at the N. E. entrance of the Mozambique Channel, and a French colony; length, about 30 miles; breadth, 20 miles; area, 140 miles; pop. (1901) est. 12,000. Some of its volcanic peaks are nearly 2,000 feet high.

Mazarin, Jules, an Italian ecclesiastic; born in Pescina, Italy, July 14, 1602. He became a cardinal, and succeeded the great Richelieu as prime minister of France. It is admitted that as a financial administrator he was far inferior to Richelieu. He was very niggardly and avaricious, and had acquired in various ways, fair and foul, an immense fortune, amounting to $60,000,000, which he offered to the king, Louis XIV, shortly before he died. He died in Vincennes, France, March 9, 1661.

Maze, Hippolyte, a French historian; born in Arras, France, Nov. 5, 1839; died in Paris, Oct. 25, 1891. One of his books was on "The Republic of the United States." He was also a successful politician.

Mazeppa, Ivan Stephanovich, hetman of the Cossacks; born in Mazepintzi in 1644. He was descended from a poor but noble family of Podolia, and became a page at the court of John Casimir, King of Poland. A Polish nobleman, having surprised him in an intrigue with his wife, caused him to be stripped naked and bound on his own horse, lying on his back, and with his head to its tail, and let the animal loose, leaving Mazeppa to his fate. The horse carried him, senseless from exhaustion, to its native wilds of the Ukraine. A more credible story is that his horse carried him through woods and thickets and brought him back torn and bleeding to his own home. Mazeppa now joined the Cossacks, became secretary to their hetman, Samoilovich, and in 1687 was elected his successor. He won the confidence of Peter the Great, who loaded him with honors and made him Prince of the Ukraine; but, on the curtailment of the freedom of the Cossacks by Russia, Mazeppa conceived the idea of throwing off the sovereignty of the czar, and for this purpose entered into negotiations with Charles XII. of Sweden. His treason was revealed to Peter the Great, who long refused to credit it. Mazeppa's hopes perished in the disaster of Pultowa, and he fled with Charles to Bender, where he died, Sept. 22, 1709.

Mazurka, or **Mazourka,** a Polish dance of lively grotesque character, the music being in 3–8 or 3–4 time with a peculiar rhythm.

Mazzini, Giuseppe, an Italian patriot; born in Genoa, June 28, 1805; was graduated at the University of Genoa (1826); admitted to the bar there; joined the Carbonari; was arrested by the authorities of Piedmont on the charge of conspiring against the government, but after being imprisoned for six months, was released for lack of evidence. He then left Italy, and resided in succession in Marseilles, Paris, and London, whence he agitated for the liberation of Italy. About 1832 he founded the famous secret revolutionary society "Young Italy." At the outbreak of the revolution of 1848 he returned to Italy, where he became a member of the triumvirate in the republic of Rome, but was again exiled at the restoration of the papal power. Being unwilling to take the oath of allegiance under a monarchy, he remained abroad. In 1870 he engaged in an in-

surrection at Palermo and was captured, but afterward released at the general amnesty after the occupation of Rome. He died in Pisa, Italy, March 10, 1872.

Mead, a fermented liquor made from honey mixed with water.

Mead, Edwin Doak, an American historical writer; born in Chesterfield, N. H., Sept. 29, 1849; studied in English and German universities. He was the author of "The Roman Church and the Public Schools," etc.

Mead, Larkin Goldsmith, an American sculptor; born in Chesterfield, N. H., Jan. 3, 1835; studied sculpture; he produced the colossal statue of "Vermont" for the State-house at Montpelier. While serving in the army in 1861 he sent graphic sketches of camp and battlefield to a New York illustrated paper. In 1862 he went to Florence, and in 1865 exhibited several works at New York. He executed the statue of Lincoln for the monument at Springfield, Ill., and the statue of Ethan Allen in the capitol at Washington.

Meade, George Gordon, an American military officer; born in Cadiz, Spain, where his father was United States naval agent, Dec. 31, 1815; was graduated at the United States Military Academy in 1835; served in the Mexican War, but was mostly employed on survey duty and in the construction of lighthouses till the Civil War. In 1861 he obtained a brigade of volunteers, and during the Peninsular campaign received a severe gunshot wound. He distinguished himself at Antietam and at Fredericksburg, and was promoted Major-General in November, 1862. In June, 1863, he was placed in command of the Army of the Potomac, superseding Gen. Joseph Hooker. A week later the battles of Gettysburg had been fought under his command, and Lee's effort to carry the war into the country N. of the Potomac had been defeated. Meade became Brigadier-General in the regular army on July 3, and Major-General in 1864. After the war he commanded various military departments till his death, in Philadelphia, Nov. 6, 1872.

Meade, Richard Worsam, an American naval officer; born in New York city, Oct. 9, 1837; entered the navy Oct. 2, 1850; served on the "St. Louis" and was with Commodore Ingraham, in Smyrna, in 1853; was promoted lieutenant-commander in 1862 and placed in command of the "Louisville"; commanded the naval battalion during the New York riots in July, 1863; captured seven blockade runners while in command of the "Chocorua," of the West Gulf squadron; was in charge of the American yacht "America" in her famous race with the British "Cambria" in 1870; and commanded the "Narragansett" 1871–1873, when his cruises covered 60,000 miles in the Pacific, in which he visited every important island. He was promoted captain in 1880; commodore in 1892; rear-admiral in 1894; and was retired at his own request May 7, 1895. He died in Washington, D. C., May 4, 1897.

Meadow Grass, the common name of several grasses.

Meadow Lark, a beautiful American species of lark, found in Eastern United States to the high central plains.

Meagher, Thomas Francis, an Irish-American patriot; born in Waterford, Ireland, Aug. 3, 1823. He early devoted himself to the patriotic cause as a prominent and fearless member of the Young Ireland party. In 1848 he was sentenced to death under the "Treason-felony" Act, but was sent for life to Van Diemen's Land instead. He made his escape in 1852, studied law in the United States, but on the outbreak of the Civil War volunteered as a Union soldier. In 1861 he organized the "Irish brigade" and distinguished himself by his courage in the seven days' battles around Richmond, at the second battle of Bull Run, Fredericksburg, and Antietam. After the war he became secretary of Montana Territory, and while taking measures as temporary governor to keep the hostile Indians in check, fell from the deck of a steamboat into the Missouri, near Fort Benton, and was drowned, July 1, 1867.

Meander, in art, a peculiar style of ornamental design, in which the lines interlace; it is often used in decorating vases, and is also sometimes met with in architecture.

Measles, an infectious disease, called also rubeola, most frequently attacking children, though sometimes occurring in old age.

Mecca, or **Mekka,** the most celebrated city of Arabia; about 60 miles from Jidda, its port on the Red Sea; long the capital of an independent State in the Hejaz, and the birthplace of Mohammed. It is styled by Mohammedans Om-el-Kora (the mother of towns). It stands in a narrow sandy valley, inclosed by sterile hills from 200 to 500 feet high, without tree or verdure; and is poorly supplied with water. In its center is the

MEANDER DESIGNS.

Beitu-'llah (house of God), or El-Haram (The Inviolable) — the great mosque inclosing the Caaba, occupying a square. The streets are wider than is usual in Eastern towns, the houses of stone, often three stories high, and well lighted with windows looking toward the street, which gives them a European appearance. The population of Mecca was formerly 100,000, though now not more than 60,000. The Hadj or pilgrimage to the Caaba, customary among the Arabs in early and idolatrous ages, and subsequently enjoined by Mohammed on all his followers, is the sole foundation of Mecca's fame, and the only source of its wealth and occupation.

There are several irregular and in some measure unsightly buildings around the Caaba. In one of these is the famous well of Zemzem, alleged to be the one whence Hagar obtained water for Ishmael. The water of Zemzem is perfectly fresh, though every other spring in the neighborhood is brackish. Few pilgrims leave the holy city without taking with them some flasks filled from the sacred well. The Meccawi, or inhabitants of Mecca, are, with the exception of a few Hejazi Bedouins, all strangers by birth or parentage.

As Mecca during the pilgrimage is visited by 100,000 strangers on an average, it becomes for three or four months in the year, the greatest market in the East. The Sherifs, or direct descendants of Mohammed, are now a numerous and widely spread body. They all wear the same costume, priding themselves on the green robe which marks their descent. These nobles, elect the Sherif of Mecca, and their choice is formally confirmed by the Ottoman Sultan. Ptolemy mentions Mecca under the designation of Macoraba. The Wahabees took it in 1803; but in 1833 it was given up to Mehemet Ali, whose son Ibrahim was made Sheik el Haram. At present it depends directly on the Sultan.

Mechain, Pierre Francois Andre, an astronomer; born August 16, 1744, at Laon, France. His discovery and calculation of two comets in 1781 rendered him generally known; and he was among the first to delineate the probable orbit of the newly discovered planet Uranus. In the course of 18 years Mechain discovered 14 comets, the orbits of which he calculated. No important celestial phenomenon escaped his notice. He died in Castellon-de-la-Plana, in Spain, Sept. 20, 1804, of the yellow fever, a victim of his exertions in the cause of science.

Mechanics, the popular name for the science which treats of the action of force. It is divided into dynamics, which treats of motion and the forces producing it; and statics, which treats of forces compelling bodies to remain at rest.

Mechanism. Anything which changes one form of energy into another may be called a machine; mechanism treats of those arrangements of machinery by means of which a body, acted on by a certain force and moving in a particular path, communicates mechanical work to another body in such a way that it exerts a certain force and moves in another particular path.

Mecklenburg Declaration, a resolution said to have been adopted in May, 1775, at a midnight meeting of representatives of the militia of Mecklenburg co., N. C. It declared that the people of that county were free and independent of the British crown, and not only was its general tenor that of the Declaration of Independence, but many phrases are word for word as they appear in that document. The minutes of the midnight meeting are said to have been destroyed by fire in 1800.

Medals of Honor, tokens bestowed by high authorities on individuals for specific services. By the Act of July 12, 1862, the United States government authorized the striking of 2,000 medals to be given to non-commissioned officers and privates for gallantry in action and soldier-like qualities. On March 3, 1863, the sum of $20,000 was appropriated for making the medals, and officers were made eligible to receive them. Medals were authorized by Congress in recognition of acts of bravery performed during the war with Spain, in the naval battles of Manila and Santiago, the Manila medals bearing the portrait of Admiral Dewey, and the Santiago medals a portrait of Rear-Admiral Sampson. These medals are highly prized by their recipients.

Media, in ancient geography, a country of Asia, which extended on the W. and S. of the Caspian Sea, from Armenia and Assyria on the N. and W., to Farsistan or Persia proper on the S. It covered a territory larger than that of Spain, and was one of the most fertile and earliest cultivated among the kingdoms of Asia. It had two grand divisions, of which the N. W. was called Atropatene, or Lesser Media, and the S., Greater Media. Ecbatana was the ancient capital. Media is one of the most ancient independent kingdoms of which history makes mention. The Medes conquered Babylon 2000 B. C., and the dynasty lasted 224 years. The Medians were in language, religion, and manners very nearly allied to the Persians. After they had shaken off the yoke of the Assyrians, their tribes united about 708 B. C., according to the common account, and chose Dejoces (Kai-Kobad) for their chief. His son Phraortes, or Arphaxad, subdued the Persians. Cyaxares (Kai-Kaous), the son of Phraortes, in alliance with Nabopolassar, King of Babylon, overthrew the Assyrian empire about 604 B. C., and spread the terror of his arms as far as Egypt. He was succeeded by his son Astyages (Asdehak), who was deposed (560 B. C.) by his own grandson Cyrus (Kai-Khusru), King of Persia; and from this time the two nations are spoken of as one people. Media was on several occasions separated from Persia. In 152 B. C., Mithridates I. took Great Media from the Syrians, and annexed it to the Parthian empire, and about 36 B. C. it had a king of its own, named Artavasdes, against whom Mark Antony made war. Under the Sassanian dynasty, the whole of Media was united to Persia.

Medical Jurisprudence, that branch of state medicine which is concerned with the administration of justice.

Medici, a distinguished Italian family of Florence, whose historical fame begins in 1351 with Giovanni de Medici, who with a small body of 100 men forced his way through a Milanese army which was besieging the fortress of Scarperia, and relieved the place. His son, Salvestro, who enjoyed the rank of gonfaloniere from 1378 to his banishment in 1381. Giovanni, his son and successor, distinguished for his commercial enterprise, and for promoting the interests of the republic, flourished 1360–1428.

Cosmo, one of the sons of the latter, surnamed "Father of his Country," born in 1389. He early took part in the important commercial concerns of his father, and also in the government of the republic. He died August 1, 1464. Piero I., his son and successor; born 1414, became the victim of a revolt in 1469.

Lorenzo, usually styled The Magnificent; born Jan. 1, 1449, and the son of Piero, was carefully educated, and early initiated in state affairs. At the age of 21 he married Clarice, a noble lady of the Orisini family, and the same year, 1469, succeeded his father as head of the Florentine republic. The quiet of his reign was interrupted, in 1478, by the conspiracy of the Pazzi, to which Pope Sixtus IV. was a party, and which had for its object the overthrow of the Medici. The conspirators attacked Lorenzo and his brother Giuliano in the Duomo, when the latter was killed and Lorenzo narrowly escaped. In the spring of 1492 he fell ill and retired to his villa at Careggi where he died April 8, 1492. He had three sons, one of whom, Giovanni, became Pope as Leo X.

Medicine, the science of diseases, and the art of healing or alleviating them.

Medill, Joseph, an American journalist; born in St. John, N. B., April 6, 1823; was admitted to the bar in 1846; went to Chicago in 1855 and purchased an interest in the Chicago "Tribune," of which he was editor-in-chief in 1863–1869, when he resigned the position. In 1874 he again became editor-in-chief and secured control of the majority of the stock of the Tribune company, and continued in this relation till his death. He was elected mayor of Chicago in 1871, eight months after the devastating fire of that year, and was an important factor in the rebuilding and improvement of the city. He died in San Antonio, Tex., March 16, 1899.

Medina, or **Medinet-el-Nabi,** "the town of the prophet," one of the sacred cities of Arabia. It is, next to Mecca, the great center of attraction to Mohammedan pilgrims. This celebrated city stands in a plain, close to a chain of hills which bounds the great desert W. Its most prominent building is the great mosque, supposed to be erected on the spot where Mohammed died.

Mediterranean Sea, a large and important inland sea, and communicating at its W. extremity by the Straits of Gibraltar with the N. Atlantic Ocean, and at its N. E. extremity, by the Dardanelles and Bosporus, with the Black or Euxine Sea; greatest length, 2,300 miles; greatest breadth, from Venice to the Bay of Sidra, 1,200 miles; area, est. 690,000 square miles. It includes several other seas, as the Adriatic, Ionian, Tyrrhenian, and the sea of the Grecian Archipelago, besides several smaller inlets, such as the gulfs of Tarento in Italy, Lepanto in Greece, Cades, and Sidra, the ancient Syrtes in Africa, the bays of Lyon, Genoa, and Naples, etc. The coast of the Mediterranean is as remarkable for the difference of altitude as for variety of outline. In the N., with the exception of Italy, it is bold and rugged. On the E. and S. the country presents a low uninteresting flat, with rocky reefs and shoals projecting 5 to 7 miles from the shore, and which render the navigation near these shores both difficult and dangerous; and in this respect the S. side presents a striking contrast to the N., where generally speaking, deep soundings may be had close to the shore; while in parts, particularly between Nice and Genoa and near Gibraltar, no soundings can be found less than 1,000 fathoms. The principal rivers which flow into the Mediterranean are the Ebro, Rhone, Po, and Nile. The evaporation from the surface of the Mediterranean is greater than in the Atlantic Ocean, owing to the heat which proceeds from the African deserts, and the shelter which the mountains afford from the cold winds of the N. In consequence of this evaporation it contains a sixth per cent. more salt than the waters of the Atlantic Ocean. The Mediterranean was long considered tideless, but the tide rises from 5 to 7 feet. The prevalent winds vary during the spring between S. E. and S. W.; at other times from N. W. to N. E. The shores are in many places subject to earthquakes. There are also the active volcanoes of Ætna, Vesuvius, and Stromboli, and many evidences of volcanic action as the sudden upheaving of islands, and their equally sudden disappearance. Water spouts are of frequent occurrence, especially along the coast of Asia Minor. Several springs of fresh water rise in different parts of the Mediterranean; the largest being in the port of Tarento, near the mouth of the Galesus, where the fresh water ascends with such impetuosity, and in such a vol-

ume that it may be taken up at the surface without the least impregnation of salt. The Mediterranean possesses several large islands, including Sicily, Sardinia, Malta, Corsica, Crete, and the Balearic Islands, besides a large number of small ones. Around it lie some of the most historically interesting countries of the civilized world.

Medlar, a much-branched spinous tree. The fruit is eaten raw, but not till it is rotten. Grows in the West Indies, and in South America, also in Japan.

Medulla Oblongata, the cranial prolongation of the spinal cord, of similar structure, but differing by a peculiar arrangement of the strands of the cord before entering into and forming a connection with the brain. In it are found the great ganglionic centers which control respiration, deglutition, vomiting, etc.

Medusa, in classical mythology, one of the Gorgons who, giving offense to Minerva, had the fine hair, on which she prided herself, turned to serpents; her eyes were also endowed with the power of converting every one who looked at her into stone.

Medusæ (the plural): Jelly-fishes. The most common species is often seen on sandy sea shores like a mass of jelly. The genus is so named because the organs of motion on the animal spread out so as to resemble the snaky hair of the fabulous Medusa.

Meehan, Thomas, an American botanist; born in England, March 21, 1826; immigrated to the United States at an early age; was mainly self-educated; and became botanist to the Pennsylvania State Board of Agriculture at its formation.

Meek, Alexander Beaufort, an American jurist and author; born in Columbia, S. C., July 17, 1814. He served in the Seminole war, was attorney-general of Alabama; judge of Tuscaloosa county; member of the Legislature, where and when he established the free-school system of Alabama, and Speaker of the Alabama House. Besides a legal digest he wrote history and poetry. He died in Columbus, Miss., Nov. 30, 1865.

Meerschaum, a peculiar silicated magnesian mineral found in several parts of Europe, but mostly in Greece and Turkey. In the last-mentioned country it is extensively used as fullers' earth, but in Austria and Germany it is adapted to the manufacture of tobacco pipes. The true meerschaum always turns from a pure milk-white to a brownish black color when smoked for some time, and to connoisseurs this is a true criterion between true and false meerschaum.

Megalonyx, a genus of large, sloth-like edentates from the post-Pliocene of North America. The fore limbs are shorter than the hind limbs, and the calcaneum is excessively long. The animal was named in 1797 by Jefferson, President of the United States, who thought the remains were those of a gigantic carnivore at least five feet in height.

Megalosaurus, a gigantic Oolitic reptile of the Deinosauria, occurring also in the Weald Clay. Its length has been variously estimated from 40 to 50 feet. Owen says that some of the remains "indicate a reptile of at least 30 feet in length." As the cylindrical bones contain medullary cavities, it is clear that Megalosaurus was terrestrial. That it was carnivorous is evidenced by the teeth.

Megaphone, an instrument invented by Thomas A. Edison for carrying the sound of the voice long distances without the aid of wires. It is composed of two large funnels in which the waves of sound are collected and concentrated and carried by means of tubes held to the ears of the person using the instrument. In the instrument called telephone-megaphone, the mouthpiece of the telephone is connected with four transmitters which multiply the usual telephone sound of the voice by four, and it is sent by wire, so increased, into the megaphone, which sends it forth into space with sufficient intensity to carry it with perfect distinctness throughout a large church or hall.

Megapodius, mound-bird. They are found in the Samoa Islands, the Tonga group, the New Hebrides, the N. portion of Australia, in New Guinea and the neighboring islands, in the Celebes, the Pelew islands, the Ladrones, the Philippines, Labuan, and the Nicobars. They are about the size of small fowls. The popular name has reference to the peculiar habits of

these birds. They heap up large mounds, of which vegetable matter is the principal component; in the center of this mass they deposit their eggs, and, covering them up, leave them to be hatched by the heat of the fermenting mass.

Megaris, in ancient geography, a small mountainous region of Hellas, or Greece proper, lying between Attica and the Isthmus of Corinth. The people were excellent sailors, and founded several colonies, of which the most famous were Byzantium (667 B. C.), Chalcedon, and Megara (Hyblæa) in Sicily.

Megatherium, a genus of extinct edentates, founded on a nearly complete skeleton discovered on the banks of the Lujan, about 9 miles from Buenos Ayres, and sent by the Marquis of Loretto, the viceroy, to the Royal Museum of Madrid. The best-known species was nearly as large as an elephant, though the limbs were shorter. Its mounted skeleton measures 18 feet in length, of which the tail occupies five. Dr. Leidy has described a smaller species from the post-Tertiary of Georgia and South Carolina; and there is a third, founded on remains from Brazil.

MEGATHERIUM.

Megrims, or **Vertigo,** the term usually applied when a horse at work reels, and then either stands for a minute dull and stupid, or falls to the ground, lying for a time partially insensible.

Mehemet Ali, Viceroy of Egypt; born in Kavala, Macedonia, in 1769. He entered the Turkish army and served in Egypt against the French; rose rapidly in military and political importance; became Pasha of Cairo, Alexandria, and subsequently of all Egypt. In 1811 he massacred the Mamelukes to the number of 470 in Cairo, and about 1,200 over the country. He then commenced, by the orders of the Porte, a war of six years' duration against the Wahabees of Arabia, which was brought to a successful conclusion by his son Ibrahim, and secured him the possession of Hejaz. Ibrahim also aided in bringing a large part of the Sudan under Egyptian rule. In 1824–1827 he assisted the Sultan in endeavoring to reduce the Morea, which led to the destruction of his fleet by the allied European powers at Navarino. Subsequently he turned his arms against the Sultan, and in his efforts to secure dominion over Syria by armed invasion, he was so far successful that the European powers had to interfere and compel him to sign a treaty in 1839, which gave him the hereditary pashalic of Egypt. In his latter days he sank into dotage. He died in Cairo, Egypt, Aug. 2, 1849.

Meiggs, Henry, born in Catskill, N. Y., 1811; went to California among the early emigrants, and fled from California to Peru, carrying with him funds belonging to many persons who had trusted him. He grew very rich in Chile and Peru, and repaid all claims against him in the United States, and the indictments outstanding were quashed. He died in 1877.

Meigs, Montgomery Cunningham, an American military officer; born in Augusta, Ga., May 3, 1816; was graduated at the United States Military Academy in 1836; served several years as engineer and in 1852 was appointed to superintend the ex-

tension of the Capitol at Washington. He also prepared the plans of several government buildings. In May, 1861, he was promoted quartermaster-general U. S. A., in 1864 was brevetted Major-General and was retired in 1882. He died in Washington, D. C., Jan. 2, 1892.

Meissonnier, Jean Louis Ernest, a French painter; born in Lyons, France, Feb. 21, 1815. All his works were painted with Flemish care and finish, but were thoroughly original in their treatment. His pictures, though of small size, sold for large sums. He died in Paris, Jan. 31, 1891.

Meistersingers, a society of German citizens formed in the 13th century for the cultivation of poetry.

Melanchthon, Philip, Luther's fellow laborer in the work of the Reformation; born in Bretten, in the Rhenish Palatinate, Feb. 16, 1497. His name was Philipp Schwarzerd, of which Melanchthon is the Greek equivalent. His father, George, was armorer to the Pfalzgraf, and died in 1507; his mother, Barbara, was a kinswoman of Reuchlin. He attended the school of Pforzheim, and as early as 1510 entered the University of Heidelberg, where in 1512 he took the degree of Bachelor of Philosophy; in the same year he went to Tubingen, devoted himself to theology, and having in 1514 attained his degree of Master, delivered lectures on the Aristotelian philosophy and the classics. Through the recommendation of Reuchlin he was called in 1518, as Professor of the Greek Language and Literature, to Wittenberg. He soon decided for the newly promulgated evangelical doctrines, and contributed as much to the progress and prosperity of the Reformation as the zeal and enterprise of Luther in pushing forward and defending the movement. Already, in 1519, in the literary war which followed the Leipsic disputation, he came forward as a champion of Luther's opinions. In drawing up the "Augsburg Confession" (1530) he displayed a marvelous strength of religious conviction, combined with a prudence which embraced every requisite consideration.

This masterpiece, together with the apology for the "Augsburg Confession," which he drew up shortly afterward, carried his name throughout Europe, and brought him an invitation from Francis I. to visit France and assist at a conference for accommodating the religious differences of that country. It also brought him an invitation to England. On a journey which he undertook to attend a religious conference at Hagenau in 1541 he was taken ill at Weimar. Luther hastened to him, and believed that his life was spared in answer to his prayer alone. The conference at Hagenau did not take place, and he went in 1541 to Worms and shortly afterward to Ratisbon to conduct the affairs of the Protestants in a conference for reconciliation with the Catholics. He had the mortification to find that the peace he ardently desired was not to flow from these conferences, and received bitter reproaches from his own party for the concessions made by him in them. A like experience befell him when, called by the Elector Hermann to Cologne, he tried to introduce the Reformation there (1543) in a spirit of toleration for the Catholics. The friendship between him and Luther, though often tried by their difference of temperament, continued unbroken till the death of the latter (1546), when Melanchthon honored him with a biographical memorial.

A great part of the confidence which had been reposed in Luther was then bestowed on Melanchthon. The spirit of concession which he had repeatedly manifested was, however, far from being acceptable to many theologians. In the controversy which arose about these concessions he was looked on almost in the light of a traitor. Other subjects of contention arose in regard to doctrinal points. The alterations which he had made in the "Augsburg Confession" during Luther's lifetime, and which had long passed unquestioned, were now regarded as conclusive proof of declension from orthodoxy. Melanchthon had always differed somewhat from Luther in the development of his doctrines, but the Lutheran doctrines had since the death of Luther acquired a systematic rigidity which was now held up as the standard of evangelical truth. All these things caused many vexations to Melanchthon. He had little cause for regret when the war between the Elector

Maurice and the emperor prevented his participation in the Council of Trent, to join which he had in January, 1552, journeyed as far as Augsburg. His orthodoxy was recognized by the theological convention of Naumburg in 1554, a final attempt which he made in 1557, at the convention of Worms, to bring about a reconciliation with the Catholics, again proved a failure. This was his last public work. He died in Wittenberg April 19, 1560.

Melanesia, a group of islands stretching from the N. E. of New Guinea to the tropic of Capricorn, and including New Britain Archipelago, Solomon Islands, Queen Charlotte or Santa Cruz Islands, New Hebrides, New Caledonia, Loyalty Islands, and the Fiji Islands. The Melanesians (Black Islanders) are of a very dark color; the hair is woolly and curly but not crinkled.

Melba, Nellie (Mitchell), an Australian prima donna; born in Melbourne, Australia, May 19, 1865; studied under Madame Marchesi in Paris, and made her debut in Brussels, Oct. 15, 1887. Since then she has sung in all the principal cities of the United States and Europe with brilliant success.

Melbourne, the largest city of Australia; capital of Victoria; is situated on the Yarra Yarra river, a stream of no great size, Melbourne proper being several miles from its mouth, while suburban extensions reach the shores of Port Phillip bay, into which the river flows. The shipping trade is large both in exports and imports, the chief of the former being wool, of the latter manufactured goods. Most imports are subject to a heavy duty.

By its railway system the city is connected with all the principal towns of the Australian continent. The first settlements on the site of Melbourne were made in 1835, and a year or two after it received its present name, being so called after Lord Melbourne, who was then British prime minister. It was incorporated in 1842. In 1851 it became capital of Victoria (then established as a separate colony), and received an immense impetus from the discovery of gold fields. A centennial exhibition was held in 1888 in celebration of the founding (in 1788) of the Australian colonies. The first Parliament of the Commonwealth of Australia was opened in the Exhibition building on May 9, 1901, by the Duke of Cornwall and York (now Prince of Wales). Pop. (1901) 493,956.

Melchizedek ("King of righteousness"), in the story of Genesis, King of Salem and priest of "Supreme El." He met Abram on his return from the victorious expedition against Chedorlaomer, gave him his blessing, and received tithes from him. The antelegal king-priest stands in Psalm cx. as a figure typical of the vicegerent of Jehovah, and in Hebrews, vii: 3, of the kingly priesthood of Jesus.

Meline, James Florant, an American historical writer; born in Sackett's Harbor, N. Y., 1811. His later years were devoted to literary work. Died in Brooklyn, N. Y., Aug. 14, 1873.

Melinite, an explosive, discovered in 1886–1887, and said to possess 10 times the force of nitro-glycerine. The two men who discovered the principles of melinite are Captains Locard and Hirondart. The name melinite was bestowed because in color it resembles honey (miel). The destructive power of the explosive is 100 times that of ordinary gunpowder and 10 times that of nitro-glycerine.

Mellifont Abbey, a ruin 4 miles N. W. of Drogheda, was the first Cistercian foundation in Ireland, founded by St. Malachy in 1142. In 1539, when it surrendered to Henry VIII.'s commissioners, it had 140 monks. Its remains were excavated during 1884–1885.

Melloca, or **Melluco,** is cultivated under the name of Oca quina for its tuberous roots in the Andes of Peru and Bolivia.

Melodeon, a wind instrument with a row of reeds and operated by keys.

Melodrama, originally a dramatic piece in which the interest was heightened by the character of the vocal or instrumental music accompanying certain situations. The melodrama is of French invention.

Melon, a well-known climbing or trailing plant with a succulent and refreshing fruit, the varieties of which, including water-melon and musk-melon, are widely cultivated in the United States.

Melos (Italian Milo), a Greek island, the most S. W. of the Cyclades; length 13 miles, width 8 miles. The island is volcanic, and produces sulphur, salt, pumice stone, stucco, millstones, and a little oil and wine. Among the ruins of the ancient city of Melos, and near its theater, was found the priceless antique, the Venus de Milo, now one of the chief treasures of the Louvre.

Melpomene, one of the nine muses who presided over tragedy. She is represented as having the form and face of a woman still young, with a commanding mien, and richly dressed. In one hand she holds a poniard and in the other a tragic mask.

Melrose, a village of Scotland, county of Roxburgh; on the Tweed, 31 miles S. E. of Edinburgh. It is celebrated for possessing the finest monastic ruin in Scotland. Melrose Abbey, originally founded by David I., in 1136, was destroyed by Edward II. of England in 1322. In 1336 it was rebuilt by Robert Bruce, and completed in the reign of James IV., about 1488–1513. It was again destroyed by the English in 1545. It was of Gothic style, and the ruins still attest its grandeur and magnificence.

Melville, the name of an island, a sound, and a peninsula in the polar regions of North America. The island is separated on the W. by Fitzwilliam Strait from Prince Patrick Island; greatest length, 200 miles; greatest breadth, 130 miles. In 1819 Parry, who gave the island its name, passed the winter here with his crews.

Melville, George Wallace, an American naval officer; born in New York city, Jan. 10, 1841. He entered the United States navy in 1861, rising through the various grades to that of Chief of the Bureau of Steam Engineering. He accompanied the unfortunate "Jeanette" polar expedition in 1878; the Hall relief expedition in the United States steamer "Tigress"; and the Greely relief expedition in 1884.

Membrane, an expansion of any tissue in a thin and wide layer. Among the most important membranes in the body are those of the brain: viz.: the dura mater, the arachnoid, the pia mater and the falx.

Memnon, in Greek mythology, a son of Eos (the morning) and Tithonis (Titan, a name for the sun), represented in the legend as a son of Laomedon and brother of Priam. The famous statue called by the Greeks Memnon, in the sepulchral quarter of Thebes called Memnoneia, which possessed the real or imaginary property of emitting a sound like that of a harp at the rising of the sun, is supposed to have been in the building called by Champollion the Rhamesseion, from its reputed founder Rhameses, or Sesostris, of which the stupendous ruins are still seen between Medinet-Habou and Kournah. The vocal Memnon is the most N. of two colossal sitting figures, each of whom is about 60 feet high, including the pedestal on which they rest. On the vocal Memnon there are 72 inscriptions in Greek and Latin by the Emperor Hadrian, the Empress Sabina, several governors of Egypt, and distinguished travelers, testifying that they have visited the Memnon and heard his voice at sunrise. The theory is now advanced that the moisture drawn rapidly from the porous rock by the heat of the rising sun, produces the humming, musical note.

Memory, the mental faculty or power which causes the impressions of bygone events, at ordinary times latent in the mind, to affect it anew or to be reproduced by an effort for the purpose.

Memphis, a celebrated city of Egypt, on the W. bank of the Nile, 10 miles S. of the modern city of Cairo. Herodotus ascribes the foundation of this place, the Moph of the Old Testament, to Menes, first king of Egypt; the date has been assigned from 3893 B. C. to 2100 B. C. The most celebrated of its sacred buildings were, the temple of Ptah, or Hephæstos — the elementary principle of fire — said to have been coeval with the foundation of the city, and improved and beautified by several monarchs; the temple of Proteus, said to have been founded by the Phœnicians about the era of the Trojan war; the temple of Isis, founded at an early period, and completed by Amasis 564 B. C.; and the temple of Apis, called the cathedral of Egypt, founded by Psammetichus. The position of Memphis was such as

to command the whole inland trade of Egypt, ascending or descending the Nile; it was the chief seat of learning and religion in Egypt. It ceased to be the metropolis of Egypt on the foundation of Alexandria, 332 B. C. It soon after fell into such obscurity and decay, that, till lately, even its site, overwhelmed with drifted sand, was disputed.

Memphis, a city and county-seat of Shelby co., Tenn.; on the Mississippi river. The city is one of the largest trade centers for cotton in the United States, shipping annually more than 500,000 bales. It has also large manufacturing interests, including cotton-seed oil, flour, grist, and planing mills, foundries and machine shops, carriage and wagon works, brick and tile plants, tobacco factories, etc. In 1900 it had an assessed property valuation of about $43,000,000. In 1862 a naval battle was fought here, resulting in victory for the Union vessels, and the city was occupied by the National authorities till the close of the war. Pop. (1900) 102,320.

Menahem, the 16th King of Israel, previously general of the army of Zachariah. He was at Tirzah when he heard of his master's murder; and immediately marching against Shallum who had shut himself up in Samaria, he captured and slew him, and then ascended the throne. He reigned in Samaria 10 years, 771–760 B. C., and was a tyrannical and cruel idolater. He seems to have died a natural death; but his son and successor, Pekahiah, reigned only two years, and was the last of that dynasty.

Menander, one of the most celebrated of the Greek comic poets; born in Athens in 242 B. C. He composed 108 comedies; but there are only a few fragments remaining of them. He is said to have drowned himself on account of the success of his rival Philemon, in the harbor of the Piræus, 291 B. C.

Mendelssohn, Moses, a German-Jewish philosopher, commonly called the "Socrates of the Jews"; born in Dessau, Germany, Sept. 6, 1729. He devoted himself to literature, in which he acquired a distinguished reputation. In 1742 he settled at Berlin. He was remarkable for the philosophical mildness of his disposition, and for the excellence of his character; and he was esteemed by persons of the most opposite opinions. He died in Berlin, Prussia, Jan. 4, 1786.

Mendelssohn-Bartholdy, Felix, a German composer; born in Hamburg, Feb. 3, 1809. He was the son of a rich banker, and the grandson of the above philosopher. The precocity of his talent surpassed even that of Mozart. Before he was eight years of age, the accuracy of his ear, the strength of his memory, and, above all, his incredible facility in playing music at sight, excited the wonder of his teachers. In his ninth year he performed at a public concert in Berlin, to the admiration of his audience. The following year the boy artist accompanied his parents to Paris; and when he was 12 years old, he composed his pianoforte quartette in C minor, which is still found to be full of interest and originality. His first compositions were published in 1824. Three years afterward he made a musical tour through Italy, France, and England; and gave, in London, his first symphony, and his overture to the "Midsummer Night's Dream," which produced an electrical effect. But his genius, as it reached maturity, became more and more profound and lofty; and his two oratorios, "Paulus," and "Elijah," will form his most enduring monuments. He died in Leipsic, Nov. 4, 1847.

Mendive, Rafael Maria de, a Cuban poet; born in Havana, Cuba, Oct. 24, 1821. Banished in 1869, he lived alternately in New York and Nassau, writing legends and stories in verse. He died in Matanzas, Cuba, in 1886.

Mendoza, Antonio de, a Spanish statesman; born about 1485. He was appointed Viceroy of Mexico (New Spain) in 1535, being the first of 64 viceroys with the best and longest administration. In 1551 he became Viceroy of Peru, where he had prepared a code of laws that has been the basis of the colonial and the present laws of the republic. Died in Lima, July 21, 1552.

Menelaus, in Greek legend, one of the Greek heroes, a King of Sparta, brother of Agamemnon, and the unfortunate husband of the lovely but

faithless Helen, whose flight with Paris, the youthful envoy from Priam, led to the Trojan war.

Menelek, or **Menelik, II.,** King or Negus of Abyssinia; son of Hailo Menelek, King of Shoa; born in 1842; succeeded Johannes II. in 1889, and was crowned in 1890. He is of Negro blood with a strain of Jew, Arab and Galla and claimed descent from Solomon and the Queen of Sheba. At the battle of Adowa, in the spring of 1896, his troops inflicted an overwhelming defeat on the Italian army, thus securing the independence of his territories. Special efforts are being made in 1903 to open trade for Americans with King Menelek's dominions.

Menes, the conductor, the first king of the first Egyptian dynasty, who built Memphis, made foreign conquests, introduced luxury, and was devoured by a hippopotamus.

Mengs, Anton Raphael, one of the most distinguished artists of the 18th century; born in Aussig, Bohemia, March 12, 1728; was the son of an indifferent Danish artist who had settled in Dresden. From the sixth year of his age the young Raphael was compelled to exercise himself in drawing daily and hourly, and a few years later was instructed by his father in oil, miniature, and enamel painting. His first great compositions appeared in 1748, and met with universal admiration. A "Holy Family" was particularly admired, and the young peasant girl who served him as a model became his wife. On his return to Dresden the king appointed him principal court painter. In 1761 Charles III. invited Mengs to Spain, where his principal works at this time were an "Assembly of the Gods" and a "Descent from the Cross." Returning to Rome he executed a great allegorical fresco painting for the Pope in the Camera de' Papiri, and after three years returned to Madrid (1773). At this time he executed the "Apotheosis of Trajan" in fresco, his finest work. In 1776 he returned once more to Rome where he died in 1779.

Menhaden (Indian name), a fish, abounding in the waters of New England and as far S. as Chesapeake bay. The economic value of this fish is derived chiefly from its use as bait, and from the oil extracted from it, the annual yield exceeding that of the whale from American fisheries.

Meningitis, the term applied by Herpin to the inflammation of the membranes enveloping the brain.

Mennonites, the followers of Menno Simons (1492–1559), a priest at Witmarsum, in Friesland, who resigned his position from religious convictions. The discipline of the Mennonites involved separation from the world, to the extent of refusing to bear arms or to fill any civil office. There is no hierarchy, but exhorters were chosen by the congregations, each of which was independent of all the rest, and from these exhorters elders were selected to administer the sacraments. The Mennonites spread over Switzerland, Germany, Holland, and even to France. Their chief home now is in the United States and Canada. There are also some German Mennonite colonies in Southern Russia.

Menopome, a large North American amphibian in the Salamander order. It is widely distributed in the rivers of the Mississippi basin, and is well known as the "hellbender," "alligator," "water-dog," etc., names which suggest its fierce characteristics.

Mensa, or **Mons Mensa,** one of the 14 constellations which Lacaille added to the heavens in connection with his work at the Cape of Good Hope. It is named from the mountain which is a conspicuous feature of the landscape at the Cape. The constellation is a very inconspicuous one near the South Pole, its brightest star being only of 5.3 magnitude.

Menstruation, a sanguineous flow from the lining membrane of the uterus, regularly returning once a month. It generally begins about the 15th year, indicating pubescence, and terminates about the 45th. It is sometimes prolonged.

Mensuration, that branch of applied geometry which gives the rules for finding the lengths of lines, the areas of surfaces, and the volumes of solids.

Menthol, a white crystalline substance obtained from oil of peppermint, and considered a valuable remedy in neuralgic affections of the face and

head. The so-called "headache pencils" are simply preparations of menthol in a solid form; the pencil is rubbed over the affected part, and the throbbing ache is immediately alleviated.

Mentor, in Greek legend, the faithful friend of Ulysses, who intrusted to him the care of his domestic affairs during his absence in the war against Troy. The education of the young Telemachus fell to his charge, and the wise and prudent counsel which he gave the youth has given to his name its metaphorical significance.

Mephistopheles, the name of one of the best-known personifications of the principle of evil. Mephistopheles owes all his modern vitality to Goethe's "Faust."

Mercenaries, or **Stipendiaries,** men who received pay for their services as soldiers, especially as distinguished from the feudal and general levies owing military service to the crown. Such men were often foreigners, and the name has come to mean only foreign auxiliaries. Hired professional soldiers appear very early in the history of military organization. Hessians fought for Great Britain in the Revolutionary War; and the Landgrave of Hesse, who sold his troops at so much a head, received upward of $2,500,000 for Hessian soldiers lost in that struggle. The wars of the Middle Ages were largely fought with hired mercenaries. The term is now commonly applied to military persons who sell their services to a cause in which they have no other interest than the compensation.

Mercer University, an educational institution in Macon, Ga.; founded in 1837 under the auspices of the Baptist Church.

Mercier, Honore, a Canadian statesman; born in St. Athanase, Quebec, Oct. 15, 1840. He studied law, and was engaged in journalism. He sat in the Dominion Parliament and became solicitor-general of the legislative assembly of Quebec, and attorney-general in 1887. In the last year he became premier, but resigned in 1891. Died in Montreal, Oct. 30, 1894.

Mercury, in astronomy, the planet nearest the sun, unless indeed it be established that the hypothetical Vulcan really exists. Its stationary points are from 15 to 20 degrees of longitude from the sun, hence it rises and sets not far from the time when the sun does so. The light of the sun and the haze of the horizon combine to render observation of the planet difficult. It varies in brightness from 15″ to 12″ of the celestial circle or vault. It is sometimes telescopic, and at other times visible to the naked eye, being as bright as a star of the second magnitude. It was known to the ancients. Its diameter is about 3,200 miles; its mass about 1-19 that of the earth; its sidereal period is 88 terrestial days. It is seen at its greatest brightness as an evening star, at

THE PLANET MERCURY.

average intervals of about 116 days. Its average distance from the sun is 36,000,000 miles. Its greatest and least distances differ nearly 15,000,000 miles. It moves in its orbit about 109,360 miles an hour against 68,040 performed in the same time by the earth. The orbit of Mercury is remarkable for its extreme eccentricity, the distance from the sun varying periodically from about 28,500,000 to 48,500,000 miles. The effect of this would be that, supposing there were any inhabitants of Mercury, within a period of about six weeks, the sun would double in apparent size, and give about double the

quantity of light and heat. The planet is supposed to rotate on its axis in 88 days. Transits of Mercury over the sun's disk occur like those of Venus, but more frequently. Spectroscopic observations indicate that Mercury has a thin atmosphere, in which water vapor is present.

Mercury, the only liquid metal at ordinary temperatures; found in the form of mercuric sulphide or cinnabar. It possesses a lustre like polished silver. Mercury is invaluable to the chemist, who employs it in collecting gases which are soluble in water. It is also used in extracting gold and silver from their ores, in silvering mirrors, and in gilding.

Mercury, a Roman deity, identified with the Greek Hermes. He was the messenger and herald of the gods, and as such he was represented as a youth, lightly clad, with the petasus or winged hat, and wings on his heels, bearing in his hand the caduceus or emblem of his office as a herald, a rod with two serpents twined round about it.

Mercy, Sisters of, the name given to members of female religious communities founded for the purpose of nursing the sick at their own homes, visiting prisoners, attending hospitals, superintending the education of females, and the performance of similar works of charity and mercy.

Mercy Seat, the golden covering placed on the ark of the testimony. Like the ark, it was two-and-a-half cubits (3 feet 9 inches) long, and one-and-a-half (2 feet 3 inches) broad. At each end was a cherub, the two looking face to face, and covering the mercy seat with their wings. The whole was put in the most holy place of the tabernacle, and afterward of the temple. On the great day of the Atonement, Aaron, the high priest, cast incense on coal (charcoal) burning in a censer, and the cloud of sweet-scented spices which thence arose covered the mercy seat, God, whose special dwelling when He visited the place was between the cherubims appearing in the cloud. The mercy seat was also sprinkled seven times with the blood of a bullock and a goat, offered as a sin offering. Jehovah spoke to Moses from off the mercy seat. In the New Testament the entry of the high priest into the most holy place is made symbolical of the entry of Christ into heaven, to pursue His work of intercession, and of the approach of the Christian to God by the blood of Jesus, whence, in devotional language, an approach to the mercy seat signifies an approach to God in prayer.

Meredith, George, an English poet and novelist; born in Hampshire, England, in 1828. He was educated in Germany; studied law, but essayed a literary career with a volume of poems in 1851. As a writer both of poetry and prose he has been eminently popular.

Merganser, a genus of aquatic birds belonging to the duck family. The merganser of North America is occasionally found in Europe.

Mergenthaler, Ottmar, an American inventor; born in Wurtemberg, Germany, May 10, 1854; came to the United States in 1872 and received a government position in Washington to care for the mechanism of bells, clocks, and signal service apparatus; became connected with a mechanical engineering firm in Baltimore, Md., in 1876. Subsequently, while still engaged with that company, he began experiments which resulted in the invention of the type setting machine bearing his name. He died in Baltimore, Md., Oct. 28, 1899.

Mergui Archipelago, a group of islands in the Gulf of Bengal, lying off the S. provinces of Burma; they are mountainous, some rising to 3,000 feet, of picturesque beauty, and sparsely inhabited by a race called the Selungs.

Merida (ancient Augusta Emerita), a decayed town of Spain, on the right bank of the Guadiana, 36 miles E. of Badajoz. It is remarkable for its Roman remains, which include a bridge of 81 arches, 2,575 feet long and 26 feet broad, erected by Trajan; the ruins of half a dozen temples, of an aqueduct, a circus, a theater, a naumachia, a castle, and the Arch of Santiago, 44 feet high, built by Trajan. There is also an old Moorish palace. Merida was built in 23 B. C., and flourished in great splendor as the capital of Lusitania. In 713 it was

taken by the Moors, who lost it to the Spaniards in 1229.

Meridian, a word connected in various ways with the idea of noon, or applied to the special conditions or culminating point in connection with a country, sphere of life, career, etc.

Meridian Circle, or **Transit Circle,** an instrument used in observatories in modern times to combine the functions of a transit instrument and of the old mural circle.

Meridian Conference, an international convention, held in October, 1884, at Washington, D. C., by invitation of the United States government, for the purpose of adopting a common prime meridian from which to reckon longitudes, and for other kindred purposes. The principal nations of the globe were represented, and the conferrees were nearly unanimous in recommending to their different governments the adoption of the meridian of Greenwich as the prime meridian. They also recommended the adoption of the Greenwich civil day as a universal day for international and scientific uses when convenient, and these two recommendations have been quite generally adopted.

Merimee, Prosper, a French author; born in Paris, France, Sept. 28, 1803. Having received an excellent education at the College Henri IV. he devoted himself to the study of the law, and passed advocate; but he attached himself to literature in his 22d year under the nom de plume of Joseph Lestrange, and published what was professedly a translation from the Spanish, though really original. Other works followed in rapid succession. After the revolution of July, 1830, he was appointed secretary to the ministers of commerce and marine. Died in Cannes, France, Sept. 23, 1870.

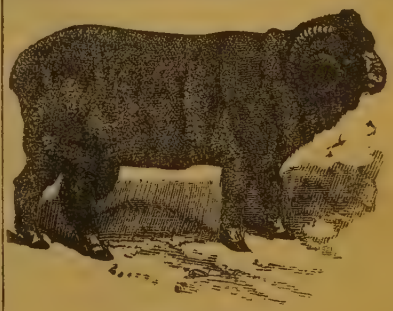
Merino, a Spanish breed of the domestic sheep. It is extremely important commercially, on account of the excellence of its wool, which is close-set, soft, spirally twisted and short. The animal is small, flat-sided, and long-legged. The males are horned. The face, ears, and legs are dark, the forehead woolly, and the skin of the throat lax.

A fine woolen material is made from the wool of the merino sheep. It is a lady's dress goods, all wool, and twilled on both sides.

Meriwether, Mrs. Elizabeth (Avery), an American novelist; born in Bolivar, Tenn., in 1832.

Meriwether, Lee, an American writer; son of Elizabeth A. Meriwether; born in Columbus, Miss., Dec. 25, 1862.

Mermaids and **Mermen,** in popular folklore a class of creatures more or less like human beings, living in the sea, but in some circumstances capable of social relationships with men and women. The typical mermaid has the head and body of a lovely woman to the waist, ending in the tail of a fish with fins and scales. She has long and beautiful hair, and is often seen above the surface of the water, combing it with one hand while in the other she holds a mirror.



MERINO SHEEP.

Merovingians, or **Merwings,** the 1st dynasty of Frankish kings in Gaul. The name is derived from Merwig or Merovech, king of the Western or Salian Franks from 448 to 457. His grandson Clovis established the fortunes of the dynasty which gave way to the Carlovingians in 752.

Merriam, George Spring, an American author; born in Massachusetts in 1843. He lived at Springfield, Mass., and wrote "A Living Faith." He was also a frequent contributor to periodicals.

Merriam, Henry Clay, an American military officer; born in Maine, Nov. 13, 1837; was graduated at Colby University; entered the army in 1862

as captain of the 20th Maine Volunteers; distinguished himself at the battle of Antietam, Sept. 17, 1862; and organized colored troops in the following year. On April 9, 1865, he commanded the attack on Fort Blakeley, Ala.; which was the last battle of the Civil War, and for bravery in that action received a Congressional medal of honor; was promoted colonel, U. S. A., in July, 1885; and afterward served in numerous campaigns against the Indians. As Commander of the Departments of the Columbia and California during the Spanish-American War he organized, equipped, and forwarded troops to the Philippine Islands; was promoted Brigadier-General, U. S. A., June 30, 1897, and Major-General of volunteers May 2, 1898. In 1899 he was sent to the Philippines in command of the army of occupation, and in January, 1900, was placed in command of the Department of Colorado.

Merriam, William Rush, an American statistician; born in Wadham's Mills, N. Y., in July, 1849; settled in St. Paul, Minn., in 1861; was graduated at Racine College in 1871; became a clerk in the First National bank of St. Paul; and was elected president of the Merchants' National bank of St. Paul in 1882. He entered the State Legislature in the last year; was reëlected in 1886; and was governor of Minnesota in 1889–1892. President McKinley appointed him Director of the United States Census in 1899.

Merrill, Selah, an American archæologist; born in Canton Centre, Conn., May 2, 1837. He was chaplain in the Civil War; after that was engaged in explorations in Palestine. He was consul at Jerusalem. Among his works are: "East of the Jordan"; "Galilee in the Time of Christ"; "The Site of Calvary"; etc.

Merrimac, The, a 40-gun screw frigate of the United States navy. On April 19, 1861, the Norfolk navyyard was abandoned by the National government and all the ships, including the Merrimac, were scuttled and sunk. The Confederates raised the hull, and converted it into a most formidable instrument of naval warfare. It was dismantled to the water's edge and a 10-foot high roof of heavy timbers and three-inch iron was built over its deck and two feet below the water line. The prow was of cast iron and her armament consisted of 10 guns. The monitor was named "Virginia" and commanded by Commodore Franklin Buchanan. On March 8, 1862, she destroyed the "Congress," a sailing ship of 30 guns, at Newport News. On March 9 she attacked the "Minnesota" and was met by the "Monitor" which had arrived the night before. The battle lasted from 8 A. M. till noon, when the "Merrimac" withdrew from the contest, and failed to return to renew it.

Merrimac, The, a collier in the United States navy, which was originally a Norwegian "tramp" steamer, the "Solveig," built at Newcastle, England, in 1894. In the summer of 1897 she ran aground in the West Indies and was abandoned by the crew. She was raised and then purchased by a New York firm and put in service as a freighter. At the beginning of the Spanish-American War the "Merrimac" was purchased by the United States government and sent to Cuba with Admiral Sampson's fleet as a collier. The sinking of this vessel in Santiago Bay, for the purpose of obstructing its entrance and preventing the escape of the Spanish fleet within, was one of the most thrilling incidents of the war. (See Hobson.)

Merritt, Stephen, preacher-philanthropist; born in New York, March 6, 1833. Educated in public schools and at Amenia, N. Y., Seminary. After learning sail-making in the Brooklyn Navy Yard, he engaged with his father in the undertaking business, and was the funeral director at the obsequies of General Grant and other noted persons. Enjoys a national reputation as a friend of the poor, the homeless, and the friendless. His timely aid proved the turning-point in the life of John G. Woolley. Ordained a minister of the M. E. Church in 1858.

Merritt, Wesley, an American military officer; born in New York city, June 16, 1836; was graduated at the United States Military Academy in 1860; assigned to the dragoons and served in the Federal army with gallantry and distinction throughout the Civil War. After the war General Merritt was occupied chiefly with frontier duty till 1882, when he was

appointed superintendent of the United States Military Academy. In June, 1887, he was ordered to Fort Leavenworth, and in 1897 became Major-General, U. S. A. In 1898 he commanded the land forces of the United States in the Philippine campaign, which culminated in the fall of Manila, Aug. 13. In 1899 he was placed in command of the Department of the East, with headquarters at Governor's Island, N. Y., and in 1900 was retired.

Mersey Tunnel, a passage under the Mersey river, opened in 1886, and connecting Liverpool and Birkenhead by a railway. It is 21 feet high, 26 feet wide, and 31 feet below the bed of the river; is 4½ miles long with the approaches, and is ventilated by means of large fans and a small tunnel which runs alongside.

Mesa, an elevation with level surface, more especially a table-land of small extent rising abruptly from a surrounding plain; a term frequently used in that part of the United States bordering on Mexico.

Meshhed, Meshed, or **Mashhad** (the "place of martyrdom"), a city of Persia, capital of Khorasan, and the center of important trade routes to Merv, Bokhara, and elsewhere, situated on a tributary of the Hari-Rud, 200 miles N. W. of Herat, and 460 E. by N. of Teheran. As seen from a distance Meshhed appears a beautiful city, above its broad sweep of walls shining the gilded dome and minarets of the mosque that covers the tomb of Imam Riza, one of the most splendid structures of the East. Imam Riza, a follower of Ali, was the 8th imam of the Shiite sect, to which body of Moslems Meshhed is a sacred city. They venerate it as greatly as the Sunnite Moslems do the city of Mecca, and visit it annually to the number of 100,000 pilgrims. The climate is severe in winter, owing to the elevation, 3,055 feet. In summer the temperature ranges from 76° to 90° F.

Mesmer, Friedrich Anton, or **Franz,** a German physician; born near Constance, Baden, May 23, 1734. He studied medicine at Vienna, and took his doctor's degree in 1766. About 1772 he began to investigate the curative powers of the magnet, and was led to adopt the opinion that there exists a power, similar to magnetism, which exercises an extraordinary influence on the human body. This he called animal magnetism, and published an account of his discovery, and of its medicinal value, in 1775. In 1778 he went to Paris, where he created a great sensation. His system obtained the support of members of the medical profession, as well as of others; but he refused an offer of an annual pension of about $4,000 to reveal his secret; and this induced the government in 1785 to appoint a commission, whose report was unfavorable to him. He fell into disrepute, and, after a visit to England, retired to Switzerland, where he spent the rest of his life in complete obscurity. He died in Meersburg, Baden, March 5, 1815.

Mesmerism, the system popularized by Mesmer, and by him called animal magnetism. One of his disciples showed that sleep might be induced by gentle manipulation alone, thus removing mesmerism from the sphere of mystery to one where it might be subjected to scientific investigation.

Mesopotamia, in ancient geography, a country of Western Asia, situate between the Tigris and the Euphrates. It was called, in the Old Testament, Aram Naharaim, or "Syria between the two waters," and Padan Aram, "Syria of the Plain," and is first mentioned in the Scriptures as the country where Nahor and his family settled. It was long part of the seat of the very ancient Babylonian dominion, and subsequently of the Mede, Persian, and Macedonian. The Romans obtained possession of Mesopotamia in 165. Jovian surrendered it to the Persians in 363. The Carmathians overran it in 902, and the Turks conquered it between 1514–1516. It is now comprised in the pashalics of Bagdad and Diarbekr. It is now inhabited only by roving bands of Arabs and Kurds.

Mesquit, or **Mesquite,** a shrub or tree of the United States and Mexico. Its wood is of a brown or red color, is heavy and hard and susceptible of a fine polish.

Messalina, the name of two Roman empresses. Messalina Valeria, who had for her fifth husband the Emperor Nero, who had murdered her fourth husband, Atticus Vistimus. After the

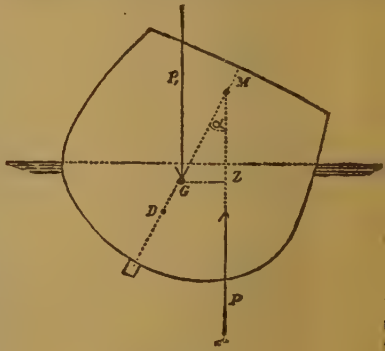
death of the emperor, in the year 68, she devoted herself to literary pursuits. Messalina Valeria, daughter of Valerius Messolinus Barbatus, who became the wife of Claudius, and shared with him the imperial throne. Her licentious conduct is unparalleled in history, for she not only made her husband's palace the scene of her debaucheries, but often quitted it at night, and acted as a common prostitute. When summoned by the enraged emperor, after some fresh extravagance, in the year 48, she attempted to kill herself, but lacked courage, and her enemy Narcissus, who dreaded the result of the interview, caused her to be dispatched by a soldier.

Messiah, or **Messias,** in Jewish history and faith, the Anointed One; a certain Personage or Being regarding whom Daniel prophesied. He was called "the Prince," was apparently identified with the "most Holy" (One), was to appear at the end of "seven weeks and three score and two weeks" from the issue of the decree to rebuild Jerusalem, was in 62 weeks to be "cut off, but not for Himself," after which Jerusalem was to be destroyed by foreign invaders. In Psalm ii: 2, the Lord and His anointed might be rendered the Lord and His Messiah. Presumably the Messiah spoken of by Daniel would discharge priestly, kingly, or prophetic functions, or two out of the three, or all of the three. The name "the Prince" would suggest that kingly functions would be specially prominent. During the later and more calamitous period of the old Hebrew monarchy, there were increasingly ardent desires for the coming of the Messiah, who was regarded chiefly as deliverer from foreign oppressors. In Jewish belief that advent is still to be expected.

In Christian history and faith, the Anointed One is in Greek Christos, from chrio to anoint. So thoroughly are the words identified, that the Hebrew mashiachh, which occurs 39 times in the Old Testament, is in every case rendered in the Septuagint christos. When Jesus of Nazareth consented to accept the appellation "the Christ," or simply "Christ," as His official designation, He claimed to be the Messiah of Daniel's prophecy. All Christendom has acknowledged the claim.

Mestizos, people of mixed origin in countries where Spanish Europeans have settled and intermingled with the natives, as in the Philippines.

Metacenter, the point of intersection of the vertical line passing through the center of gravity of a floating body in equilibrio, and a vertical line through the center of gravity



METACENTER.

of the fluid displaced, if the body be turned through a small angle, so that the axis takes a position inclined to the vertical. If the metacenter is above the center of gravity, the position of the body is stable; if below it, it is unstable.

Metallurgy. The art of smelting ores was probably discovered by observing the effect of a big fire on some rich ore that happened to be in the way. Gold is always found native, and silver and copper sometimes. The ancient Egyptians worked in gold, silver, and bronze with a degree of skill that could only have been reached by gradual steps extending over thousands of years. In India and some other parts of Asia malleable iron is made directly from rich ores in furnaces, by a process in use from time immemorial; and by a similar process savages in some parts of Africa also smelt iron. It is supposed by some archæologists that most parts of Africa passed directly from the stone to the iron age, but there seems to be

vidence that in some places on that ontinent the making of various arti- les of the copper of the country has been long practised by aboriginal ribes.

Modern metallurgy, or the art of xtracting metals from their ores, has ttained great perfection, and engages he attention of the ablest scientists of he age.

Metals. A metal, from the chem- cal point of view, is an element which an replace hydrogen in an acid and hus form a salt. Hydrogen itself is hemically, considered to be a metal. Those elements which are non-metallic n this sense are called metalloids.

Various classifications of the metals ave been suggested by different hemists. The following is probably ne of the most convenient:

(I.) The Light Metals, subdivided nto —

(1) The metals of the alkalies — viz., potassium, sodium, cæsium, ru- idium, lithium.

(2) The metals of the alkaline arths —viz., barium, strontium, cal- ium, magnesium.

(3) The metals of the true earths — viz., aluminium, glucinum, zircon- um, yttrium, erbium, terbium, thorin- m, cerium, lanthanum, didymium.

(II.) The Heavy Metals, subdivid- d into —

(1) Metals whose oxides form pow- rful bases — viz., iron, manganese, hromium, nickel, cobalt, zinc, cad- nium, lead, bismuth, copper, uranium, hallium.

(2) Metals whose oxides form veak bases or acids — viz., arsenic, ntimony, titanium, tantalum, niobi- m (or columbium), tungsten, molyb- lenum, tin, vanadium, osmium.

(3) Metals whose oxides are re- uced by heat — noble metals — viz., ercury, silver, gold, platinum, palla- ium, iridium, ruthenium, rhodium, smium. (Several of the rare metals re here omitted.)

Another classification is that by hich the metals are arranged in six roups, each group being named after metal which possesses the common haracters in a well-marked degree: iz., (1) the sodium group, (2) the alcium, (3) the iron, (4) the copper, 5) the platinum, and (6) the anti- ony groups.

Metamorphic Rocks, or **Meta- morphic Strata,** in geology, the term — first proposed by Lyell in 1833, and since universally adopted — for stratified crystalline rocks — that is, rocks which have been presumably laid down originally by the action of water, and then transformed by fire, chemical agency, pressure, or all combined.

Metamorphosis, a change or transformation in the form, shape, structure, or character of anything.

Metaphor, a figure of speech by which a word is transferred from an object to which it properly belongs to another, in such a manner that a com- parison is implied though not formally expressed; a simile without any word implying comparison; a short simile. Thus, "That man is a fox," is a meta- phor; but "That man is like a fox," is a simile. "He bridles his temper," is a metaphor, expressing that a man restrains or controls his temper, as a bridle serves to restrain or control a horse.

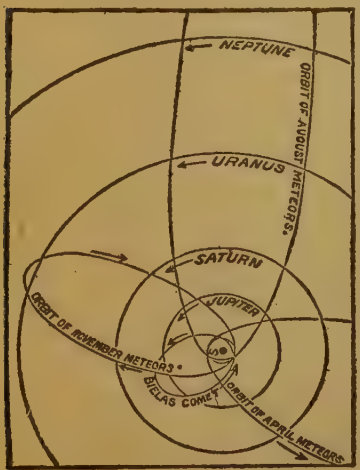
Metaphysics, a term popularly em- ployed to denote a science dealing with subjects incapable of being dealt with by physical research. Broadly view- ed, the Aristotelian metaphysic was the science of the first principles of being, the science of the first principles of knowing, and the science of God, as the beginning and ending of all things; and these three were the foundation of scholastic philosophy.

Metatarsus, the part of the foot popularly known as the "instep."

Meteor, a luminous body appearing for a few moments in the sky, and then disappearing, exploding or descending to the earth; a shooting star. On any clear night an occasional meteor may be seen, but the most brilliant displays are confined to particular dates. A very notable one is on Nov. 13 or 14. In 1864, Prof. H. A. Newton, of Yale College, predicted a display in 1866, and determined the length of the me- teoric cycle, the annual period, and the probable orbit round the sun of the November stream. The display which came on Nov. 13, 1866, was splendid. In November, 1867 and 1868, considerable star showers were seen in the United States. Similar displays have been seen in November of the years 902, 931, 934, 1002, 1101,

1202, 1366, 1533, 1602, 1698, 1799, 1832, and 1833. That of Nov. 12, 1799, was one of the finest. It was seen by Humboldt and Bonpland at Cumana, in South America. Professor Adams places the more magnificent displays at intervals of 33¼ years apart.

It is believed that a ring of meteors revolves round the sun, portions of it very thickly studded with them, while at others they are only sparsely scattered. Every year the earth's orbit cuts through the ring, though only at intervals of about 33 years through the part where they are most crowded.



METEOR.

The meteors themselves are of iron, which, striking the atmosphere of the approaching earth with planetary velocity, ignite and go to dust.

On Dec. 21, 1876, a detonating meteor exploded almost directly over the city of Bloomington, Ill., at a height of about 75 miles. Its detonating was so tremendous as to shake the city like an earthquake. Fragments of the meteor formed a cluster of fire-balls 5 miles wide and 40 miles long. The main portion of the meteor, with a rumbling roar like thunder, passed on E., and out of our atmosphere, over the Atlantic Ocean. On Feb. 10, 1896, a remarkable meteor exploded over the city of Madrid. Though it appeared during the daylight, its brilliancy was such as to dazzle the eyesight of persons in Madrid and to make it visible as far away as Gibraltar. It exploded at a height of about 15 miles, and so tremendous was the detonation that it was heard and its tremors felt over a radius exceeding 50 miles.

Meteorology, that branch of science which observes, registers, classifies, and compares the various and varying phenomena of our atmosphere. It remarks, at the same time, the connection of those phenomena with heavenly bodies, and with the solid and liquid materials of the earth, in reference to their reciprocal and combined influence in determining the character of different climates, and with the view of learning the meteoric history of every region of our globe, of ultimately investigating the laws of atmospheric change and the plan of meteoric action; the theory, in fact, of meteorological phenomena, on which depends essentially the fitness of the various portions of the earth's surface for the production of different vegetable and other substances, and for the support of animal life.

Birds and beasts are all more or less sensitive to coming changes in the weather, and by observation of their movements, sure warning of changes in the weather may be obtained.

It was not till the discovery of the barometer, in 1643, that the first great step was made toward a knowledge of the nature of our atmosphere. We were then, by its help, enabled to ascertain the weight and pressure of the great aerial ocean which surrounds us, and to learn when and where it was in a state of calm or storm. The invention of the thermometer, shortly afterward, gave the means of determining its temperature. Since the discovery of the barometer, the science of weather forecasting has made much progress in its details.

Methodists, a name first applied by a student of Christ Church to John and Charles Wesley, and some other young men at Oxford, who were in the habit of meeting together in 1729 for the purpose of strengthening each other's pious resolutions and engaging

in religious conversation. They aimed particularly at a more rigid compliance with the precepts of the New Testament than usual in the Established Church and devoted themselves to works of love, such as instructing poor children, visiting the prisons, etc. On account of their methodical observance of the rules of religion and the regularity of their lives they were nicknamed the "Holy Club," and afterward, "The Methodists," a name which has adhered to them, and which they have adopted, though Wesley himself wished that the name might never be mentioned, but be buried in oblivion. Of the members of this small society the principal were John Wesley, founder, his brother Charles, and George Whitefield, who joined it in 1735. In 1735 Wesley went out to Georgia to engage in the conversion of the heathen. There he remained two years, and becoming acquainted with some of the Moravian Brothers, was much struck with their severe simplicity and pious devotion. He then visited Herrnhut, and after his return to England collected a small society in London, which held its conferences in a private house without any disposition at this time to secede from the Church. This Wesley himself calls the first Methodist society, and in it the germ and first beginnings of Methodism are to be found.

The concourse of auditors being too great to be accommodated in any church, they began to preach in the open air, and to organize a separate church on the presumed apostolical model. The peculiar character of this field preaching, which was distinguished from the philosophical indifference of that of the Established clergy by its religious enthusiasm, and popular style, and which dwelt on the fall and depravity of man, on the atonement, on the restoration through the merits of a crucified Saviour, on repentance, and on regeneration, with all the eloquence which a sincere zeal could inspire, had a great effect in increasing the numbers of the society. Whitefield, the boldest and most zealous apostle of Methodism, often collected hearers to the number of 12,000 in the fields, churchyards, and even at fairs, and by the thunders of his eloquence and the terrors of his denunciations, produced such an effect on his audience that many of them were turned to faith and holiness on the spot. These sudden conversions were considered as the outpourings of grace and came to be considered by the Methodists as desirable results of their preaching. They soon gave up the practice of field preaching and built houses of worship, partly to protect themselves from exposure to the weather, and partly to avoid the outrages which they experienced from the rabble.

Though they suffered much from the violence of the populace, yet, as the government made no opposition, they now proceeded to the regular establishment of their church constitution, Wesley feeling that a more definite and extensive organization than he had first given them was now imperatively demanded. The first conference was held in 1744. It was composed of six clergymen, who proceeded to the consideration of the three topics: What to teach; How to teach; and What to do. The first two days were occupied with the discussion of several doctrines, evangelical and Arminian, which were defined with precision. On the three following days they discussed the relations of the Methodist societies to the Established Church, and secession from it was discountanced. In a second conference held five years later Methodism took an organic and definite form, as Wesley's opinions regarding "church order" had undergone a great and material change. An annual conference was now instituted and class meetings and love feasts sanctioned. Methodism had henceforth its ministers, lay preachers, leaders, trustees, and stewards. The empire was divided into circuits for ministerial labor, for which there was an available ministerial force of about 70 men. From this date till 1791, when Wesley died, Methodism gradually diverged from the Church of England, and became entirely independent of it. It is now a distinct religious body, governed by an annual conference, having at its head a president and secretary, whose term of office lasts but for a year. In each district the ministers hold half-yearly meetings, the several chairmen being appointed by the conference. There are also quarterly circuit meetings of ministers and lay officers. The supreme legislative and judicial power is vested in the conference, to which

the half-yearly and quarterly district and circuit meetings are subordinated. The number of members at Wesley's death was 76,968; but the denomination has increased with such marvelous rapidity that in 1891 there were said to be in different parts of the world 17,000,000 adherents.

The society of the Wesleyan Methodists in the United States is known as the Methodist Episcopal Church. Its members of the Wesleyan body first established themselves in New York in 1766. In 1784, after the Revolutionary War, the necessity of the formation of an independent society having been recognized, Wesley set apart and ordained a bishop for the infant church, who presented his credentials at the conference held at Baltimore Dec. 25 of the same year. Wesley granted to the bishop, his coadjutor, and the other preachers, permission to organize a separate and independent church. In 1830 those who were dissatisfied with the episcopal form of church government seceded and formed a new organization called the Methodist Protestant Church. A dispute on the slave question caused a second secession in 1843, named the Wesleyan Methodist Connection of America, followed next year by a much larger secession on the same question. This took the name of the Methodist Episcopal Church, South.

Methuen, Paul Sanford, 3d Baron, an English military officer; born Sept. 1, 1845, was educated at Eton and in 1864 became lieutenant of the Scots Guards. He served in Ireland, Egypt, Bechuanaland, was military attache at Berlin, and saw active service in the Ashanti, Egyptian, and Boer wars. In the latter he was made commander of the 1st Division, 1st Army Corps, in 1899, and rendered signal service under Lords Kitchener and Roberts. On March 7, 1902, while leading a force of 1,200 men to Litchenburg, he was attacked by the Boers under General Delarey. The British were completely routed, losing four guns, several hundred men in killed and captured, among the latter being Lord Methuen, who was, however, released on March 13.

Metlahkatla, or **Metlahkatlah,** name of the oldest and most successful mission among the Indians of British Columbia, founded about 1857, by William Duncan, an English missionary who developed a model community from a tribe of the lowest cannibals. In 1887, having by petition to the United States government received the grant in perpetuity of Annette Island, Alaska, the community removed to that place, where it became very prosperous under the name of New Metlahkatla.

Metonic Cycle, the cycle of the moon, a period of 19 solar years, after which the new and full moon fall on the same days of the year as they did 19 years before. This cycle was the discovery of Meton, a celebrated Athenian philosopher, who flourished about 432 B. C.

Metric System, the system adopted by the French convention in 1795, in which all measures of length, area, capacity, and weight are based on the length of a quadrant of the meridian measured between the equator and the pole.

Metternich, Clement, Prince von, an Austrian statesman; born in Coblentz, Prussia, May 15, 1773. Educated at Strasburg, he early acquired information regarding public affairs by travels in Germany, Holland, and Great Britain; and having soon afterward entered the diplomatic service, acted as secretary at the Congress of Rastadt, in 1799, where his abilities at once attracted notice, and led to his being appointed secretary of the Austrian embassy at St. Petersburg, in 1802, and Austrian ambassador, in succession, at the courts of Dresden, in 1803, and Berlin in 1805. After the peace of Presburg, he was appointed ambassador to Paris, in 1806. In 1809 he was appointed chancellor of state; and for nearly 40 years from that period, he exercised almost without control, the highest authority in the Austrian empire. In 1813, after the great French disasters in Russia, war, at the instigation of Metternich, was formally declared by Austria against France. In the autumn of that year the Grand Alliance was signed at Tœplitz, and on the field of Leipsic Metternich was raised to the dignity of a prince of the empire. In the subsequent treaties and conferences the newly created prince took a very prominent part, and he signed the treaty

of Paris on behalf of Austria. In 1815 he presided over the Congress of Vienna. In 1848 he was compelled to flee from Vienna; but he returned in 1851, and though he never again assumed office, his counsels are said to have swayed the emperor down to the moment of his death. He died in Vienna, June 11, 1859.

Metz, the strongest fortress of the German imperial territory of Alsace-Lorraine, and the capital of the district of Lorraine; before 1871 the main bulwark of France in her N. E. frontier, and capital of the department of Moselle. In August, 1870, Bazaine was compelled to retire into Metz with his army; and after an investment of 70 days, during which no attempt was made to take the city by force, Europe was startled to hear of the capitulation of Metz, by which 180,000 men and immense military stores fell into German hands (Oct. 27, 1870). By the treaty of Frankfort Metz was annexed to Germany as part of Lorraine. Known to the Romans as Divodurum; it was afterward called Mettis. Pop. (1900) 58,462.

Mexican War, a war between the United States and Mexico, growing out of the annexation of Texas in 1845. Texas claimed the Rio Grande as her N. W. frontier, while Mexico insisted on the Nueces river. The United States supported the position taken by Texas, and war between the two countries was declared in 1846. During that year Gen. Zachary Taylor won the battles of Palo Alto and Resaca de la Palma and forced Monterey to surrender. On May 23, 1847, he gained the victory of Buena Vista. In June of the same year General Scott took Vera Cruz and marched on to the City of Mexico. On the way he fought the battles of Cerro Gordo, Contreras, Churubusco, Molino del Rey, and Chapultepec. His capture of the City of Mexico, Sept. 14, 1847, virtually ended the war, and the treaty of Guadaloupe-Hidalgo was signed Feb. 12, 1848.

Mexico, a republic of North America; area, 767,005 square miles; pop. (1900) 13,545,462. For the most part Mexico consists of an immense tableland. The prevailing formations are metamorphic, but partly overlaid by igneous rocks of every geologic epoch, rich in ores. In the highest mountain ranges granites and other rocks prevail, with deposits of sulphur and pumice, and other recent volcanic discharges. In the N. chalk and sandstones become prevalent. The most important range is the Sierra Madre (over 10,000 feet); parallel with this run the sierras of the E. coast and of Lower California. The surface of the country is also much broken up by short cross-ridges and detached peaks, the principal being the Cordillera de Anahuac culminating in Nevado de Toluca (19,454) feet, and Popocatepetl (17,523). The Pico de Orizaba, E. of Popocatepetl, is 18,205 feet high. On the Atlantic side the plateau descends abruptly to the narrow strip (about 60 miles) of gently sloping coast land; toward the Pacific, where the coast lands vary in width from 40 to 70 miles, the descent is more gradual. Of the present lakes the only one of great size is Chapala, which is traversed by the Rio Grande de Santiago; but considerable bodies of water collect in depressions in the uplands during the heavy rains. The rivers of Mexico are of little use for navigation. S. of the Rio Grande del Norte, on the Texan frontier, they are mostly impetuous mountain torrents, or flow through rocky gorges, sometimes 1,000 feet deep. Only in the narrow strips between the plateau and the coast are they available as channels of trade.

In the plateau region the climate is almost that of perpetual spring, and the atmosphere is remarkably free from moisture, but so scarce is rain that plateau agriculture is largely dependent on irrigation. An immense desert tract extends between Chihuahua and Zacatecas. On the coast lands water is abundant, but the climate is so unhealthful that few white men can labor there.

The vegetation of Mexico shows great varieties. In the lowlands dyewoods and valuable timbers, medicinal plants, india-rubber, palms, oranges, bananas, many varieties of cactus, etc., abound. The plateau besides yielding a number of the foregoing also produces mahogany, ebony, rosewood, oak, and pine; copal, rubber, and numerous gums, cassia, jalap, ipecacuanha, and other medicinal plants, cartamo, logwood, and various other dyes. The

principal agricultural products are rice, maize, wheat, sugar, panocha, molasses, brandies, henequen, cotton, coffee, tobacco, logwood, and rum.

The country is rich in minerals, many of which have been worked from an early date. Silver, especially, has been an important industry ever since the conquest. Gold is also produced. Copper is largely mined in some sections, being found in a pure state in Chiapas and Guanajuato, and elsewhere associated with gold. Other important minerals are iron, including enormous masses of meteoric iron ore. The mountain, Cerro de Mercado, a mile from Durango, is a solid mass of magnetic iron ore. Other mineral products are lead, sulphur, zinc, quicksilver, platinum, cinnabar, asphalt, petroleum, salt, marble, alabaster, gypsum and rock-salt. There are about 100,000 persons regularly employed in the mines, and the total yield of ore is valued at about $30,000,000.

Till recent years very little manufacturing was done in Mexico, the number of factories using steam not greatly exceeding 100 prior to 1888.

In 1899 there were 8,040 miles of railway, and 127 miles of tramway in operation, all constructed since 1872, when the first railroad in the country was built, from Vera Cruz to Mexico City. The length of telegraph lines was 41,532 miles, of which 27,608 miles were owned by the government and the rest by States, railroads, and corporations. There were also 7,459 miles of telephone lines. In 1899 the postoffices numbered 1,870.

The public schools are non-sectarian and are supported by the National and State governments. Primary instruction is compulsory in nearly all parts of the republic, and all classes are desirous of having their children educated. The higher branches of education are taught in seminaries and colleges.

The prevailing faith is Roman Catholic, which was the State religion till 1857. On Sept. 25, 1873, the government declared that it recognized no State religion. Monastic orders have been prohibited, and in the larger cities clergymen are not permitted to appear on the streets in ecclesiastical garments.

The government of Mexico is that of a republic. The constitution adopted on Feb. 5, 1857, with later modifications, closely resembles that of the United States. The several States have absolute control of their internal affairs. The President, who is chosen every four years, and is now eligible to consecutive reëlections, is assisted by a cabinet of seven secretaries. The legislative power is vested in a Congress, composed of a Senate and House of Representatives. Representatives, whose terms are two years, are elected by popular vote on the basis of one representative for every 40,000 population. The Senate consists of 56 members, two from each State, and two from the Federal District, who serve four years, and are elected in the same manner as the representatives. The justices of the Supreme Court, which occupies the same position as that of the United States, are chosen by popular suffrage and serve for six years. There are two annual sessions of Congress, the first from April 1 to May 30, and the second from Sept. 16, to Dec. 15, and a permanent committee of both houses sits during recesses.

The history of ancient Mexico exhibits two distinct and widely differing periods — that of the Toltecs and that of the Aztecs. The 8th century is the traditional date when the Toltecs are related to have come from the N. Their capital was established at Tula, N. of the Mexican valley. Their laws and usages stamp them as a people of mild and peaceful instincts, industrious, active and enterprising. It is related that a severe famine and pestilence all but destroyed the Toltec people in the 11th century, and near the end of the next century, a fresh migration brought, among other kindred nations, the Aztecs into the land. Within two centuries and a half this last people had become predominant. But their rule was, in a great degree, a reversion to savagery.

The Aztecs founded, about 1325, the city of Tenochtitlan, or Mexico; a hundred years later they had extended their sway beyond their plateau valley, and on the arrival of the Spaniards, their empire was found to stretch from ocean to ocean. Their government was an elective empire, the deceased prince being usually succeeded by a brother or nephew, who must be a tried warrior; but sometimes the successor was chosen from

among the powerful nobles. The monarch wielded despotic power, save in the case of his great feudal vassals; these exercised a very similar authority over the peasant class, below whom, again, were the slaves. The Mexicans apparently believed in one supreme invisible creator of all things, the ruler of the universe; but the popular faith was polytheistic. At the head of the Aztec pantheon was the frightful Huitzilopochtli, the Mexican Mars. The victims were borne to the summit of the great pyramidal temples, where the priests, in sight of assembled crowds, bound them to the sacrificial stone, and, slashing open the breast, tore from it the bleeding heart and held it up before the image of the god.

Cortez landed at Vera Cruz in 1519. Before his energy, and the superior civilization of his followers, the power of the native empire crumbled away. In 1540 Mexico was united with other American territories — at one time all the country from Panama to Vancouver's Island — under the name of New Spain, and governed by viceroys, appointed by the mother country. The intolerant spirit of the Catholic clergy led to the suppression of almost every trace of the ancient Aztec nationality and civilization, while the commercial system crippled the resources of the colony; for all foreign trade with any country other than Spain was prohibited on pain of death. Mexico ranked first among all the Spanish colonies in regard to population, material riches, and natural products. In 1810 the discontent, which had been gaining ground against the viceregal power during the war of the mother country with Napoleon, broke into open rebellion, and a guerilla warfare was kept up until, in 1821, the capital was surrendered by O'Donoju, the last of the viceroys. In the following year General Iturbide, who in 1821 had issued the plan de Iguala, providing for the independence of Mexico under a prince of the reigning houses, had himself proclaimed emperor; but the guerilla leader Guerrero, his former ally, and Gen. Santa Ana raised the republican standard, and in 1823 he was banished to Italy with a pension. Returning the following year he was taken and shot, and the federal republic of Mexico was finally established.

For more than half a century after this the history of Mexico is a record of nearly chronic disorder and civil war. In 1836 Texas secured its independence, for which it had struggled for several years, and which Mexico was compelled to recognize in 1845. In that year Texas was incorporated with the United States; but its W. boundary was not settled, and war ensued between Mexico and the United States. From the fall of Santa Ana in 1855, down to 1867, great confusion prevailed.

In 1853 Benito Juarez became president, but his claims were contested by General Miramon, the head of the reactionary or clerical party, and the country was plunged in civil war. During this period of internal disorder, the Cortes passed an act suspending all payments to foreigners for two years, an act that drew upon the Mexican government the serious remonstrance of European powers; and the result was the dispatch of a fleet of English, French, and Spanish ships into the Mexican Gulf for the purpose of enforcing. satisfaction. In April, 1862, Emperor Napoleon formally declared war against Mexico; but the French never met with the welcome they expected from the people, and finally had to withdraw, without permanent success, in 1867, largely because of the attitude of the United States. Maximilian, who had become Emperor of Mexico under French support, was executed in the same year, and Juarez returned to power. On the death of Juarez in 1872, the chief justice, Lerdo de Tejada, assumed the presidency, in which, after a revolution, he was succeeded in 1876 by Gen. Porfirio Diaz, one of the ablest of Mexican soldiers and administrators, who has been reëlected. In November, 1901, the Pan-American Congress, with representatives from all the countries of the Western Hemisphere, convened in the City of Mexico.

Mexico, a city and capital of the republic of Mexico, situated within the State of Mexico in the Federal District, about 7,400 feet above sea-level, near several lakes, and at about an equal distance from Vera Cruz on the Mexican Gulf, and Acapulco on the Pacific; is laid out with great regularity; principal public buildings; palace

of government; college of mines, a noble building, but now somewhat dilapidated; mint; town house; university, etc.; numerous convents, hospitals, churches, theaters, etc. Pop. (1900) 402,000.

Mexico, Gulf of, a basin of the Atlantic Ocean, closed in by the United States on the N., by Mexico on the W. and S., and its outlet on the E. narrowed by the jutting peninsulas of Yucatan and Florida, which approach within 500 miles of each other; length from S. W. to N. E. over 1,100 miles; area 716,200 square miles. Over a fourth of this area the ocean lies at a depth of between 1,000 and 2,000 fathoms, while 58,000 square miles is deeper still. The shores are very shallow, less than 100 fathoms deep. In the middle of the E. outlet is the island of Cuba, dividing the strait into two — the Strait of Florida and that of Yucatan, the former connecting the gulf with the Atlantic Ocean, the latter with the Caribbean Sea. Of the numerous bays, the largest is the Bay of Campeachy. The coasts are mostly low and sandy or marshy, and are lined with numerous lagoons; the best of the few good harbors are those of New Orleans, Pensacola, and Havana. The gulf is visited from September to March by violent N. E. gales called nortes. The principal rivers it receives are the Mississippi and the Rio Grande del Norte.

Meyer, Adolf, an American physician; born in Zurich, Switzerland, in 1866; studied medicine at the University of Zurich in 1885–1890; then turned his attention to the study of neurology; came to the United States in 1893 and settled in Chicago, Ill., where he became pathologist of the Illinois Eastern Hospital for the Insane. In 1895 he was made director of the clinical work and laboratory of the Worcester (Mass.) Insane Hospital. In December, 1901, he was appointed director of the New York State Pathological Institute.

Meyerbeer, Giacomo, a German composer; born in Berlin, Prussia, Sept. 5, 1791. His genius showed itself so early that at six years of age he played at a concert, and at nine was one of the best pianists in Berlin. He subsequently visited Italy, where he came under the influence of Rossini. The first work which made him a man of mark was the "Crusade in Egypt." It was produced at Venice in 1824, and at Paris two years later. Meyerbeer became the favorite composer of the Parisian public. Besides his operas, Meyerbeer wrote a "Stabat," a "Miserere," a "Te Deum," an oratorio, cantatas, and many songs. He died in Paris, May 1, 1864.

Mezereon, a small shrub with fragrant pink flowers generally in threes. Berries, red, ovoid, acrid and poisonous.

Mezzotint, a process of engraving on copper. The process dates from about the middle of the 17th century.

Miantonomah, The, a twin-screw iron, double-turreted monitor of the United States navy.

Mica, a name originally given to the shining, scaly constituent of many rocks and earths.

Micah, the name of various persons spelled Micah, Michah, or Micha, mentioned in the Old Testament. Specially: (1) A priest (Judges xvii, xviii) believed to have been a descendant of Moses, written Manasseh (xviii: 30). (2) The prophet called Micah the Morasthite, perhaps to distinguish him from Micaiah, the son of Imlah, who lived in the reign of Ahab. Morasthite means of Moresheth, probably Moresheth-gath (Micah i: 14). Scarcely anything is known of him, except what may be gathered from his prophecies.

In the Old Testament canon: The 6th in order of the "minor prophets." The title states that "the word of the Lord came to Micah the Morasthite in the days of Jotham, Ahaz, and Hezekiah, kings of Judah." The visions were concerning Samaria and Jerusalem, the capital of the 10 tribes, it will be observed, standing before that of the two. Jeremiah attributes at least the prophecy in Micah iii 12 to the reign of Hezekiah. The corruptions of the 10 tribes and of the two are denounced; and the prophet foretells the destruction of both Samaria and Jerusalem, the captivity in Babylon; the world-wide spiritual influence to be ultimately exercised by Jerusalem and Zion, and the rise of a ruler to be born in Bethlehem, "whose go-

ings forth have been from of old, from everlasting." The canonical authority of the book has never been doubted.

Michael, the name given to one of the chief angels, who, in Dan. x: 13-21, is described as having special charge of the Israelites as a nation; and in Jude 9, as disputing with Satan about the body of Moses, in which dispute, instead of bringing against the arch-enemy any railing accusation, he only said, "The Lord rebuke thee, O Satan!" Again, in Rev. xii: 7-9, Michael and his angels are represented as warring with Satan and his angels in the upper regions, from which the latter are cast down upon the earth. This is all the reference to Michael which we find in the Bible.

Michaelmas, the feast of St. Michael the Archangel. It falls on Sept. 29, and is supposed to have been established toward the close of the 5th century.

Michal, the younger of Saul's two daughters, in love with David, and whom Saul reluctantly gave to him in marriage. She saved her husband's life from assassins sent by her father, by a stratagem which gave him time to escape. Her father then gave her in marriage to Phalti, from whom David some years after recovered her. When David brought the ark of God to Jerusalem, she conceived and expressed great disgust at his pious joy, and the affections of the king remained alienated from her till her death.

Michaud, Joseph Francois, a French historian; born in Albens, Savoy, June 19, 1767. The great work on which Michaud's reputation rests is his "History of the Crusaders." He died in Passy, Sept. 30, 1839.

Michigan, a State in the North Central Division of the North American Union; admitted to the Union, Jan. 26, 1837; number of counties, 83; area, 57,430 square miles; pop. (1900) 2,420,982; capital, Lansing.

The State is divided by the Great Lakes into two peninsulas, the lower of which occupies nearly two-thirds of the land area. The surface of the S. peninsula is generally level, broken by conical hills rising to an altitude not exceeding 200 feet. It is divided by a low watershed running N. and S., the larger portion of the State being on the W. of this and gradually sloping toward Lake Michigan. The N. peninsula is mountainous; the Porcupine range, rising to an altitude of 2,000 feet above the sea, forming the watershed between the streams flowing into Lake Superior and Lake Michigan. The surface on either side of this range is rugged. There are numerous lakes and marshes in both peninsulas, and the coast is much indented. Keweenaw, White Fish, and the Big and Little Noquette bays are the principal indentations on the N., while the Grand and Little Traverse, Thunder and Saginaw bays indent the S. peninsula. The State has numerous large islands, the principal ones being the Manitou, Beaver and Fox groups in Lake Michigan; Isle Royale, and Grande Isle, in Lake Superior; Marquette, Bois Blanc, and Mackinaw in Lake Huron; and Nebish, Sugar, and Drummond Islands in St. Mary's Strait. The rivers are small, short, and shallow, and but few are navigable.

The soil is of varied composition and in large areas is very fertile, especially in the S., but the N. peninsula for the most part is rocky and mountainous and the soil not adapted to agriculture. The climate is tempered by the proximity of the lakes and is much milder than in other localities with the same latitude. The principal forest trees include basswood, maple, elm, sassafras, butternut, walnut, poplar, hickory, oak, willow, pine, birch, beech, hemlock, witch-hazel, etc.

Michigan has a great mineral wealth especially in copper and iron. The State ranks first in the United States in its iron production and second in copper. Coal is largely mined, and there is considerable stone production. Other mineral products are lead, gypsum, barytes, marl and lime.

The soil of S. Michigan is especially adapted to fruit and berry growing, grapes, cranberries, cherries, strawberries, apples, pears, peaches, and plums are raised to a large extent. The principal farm crops are corn, hay, oats, wheat, potatoes, barley, rye, and buckwheat.

The principal articles of manufacture are lumber, flour and grist mill products, foundry and machine shop products, furniture, tobacco, iron and

steel, clothing, and shipbuilding. Shipbuilding is carried on at Port Huron, Wyandotte, and Detroit; and Belding has extensive silk interests. Other important manufacturing cities are Grand Rapids, Lansing, Saginaw, Battle Creek, Albion, Traverse City, and Muskegon. The imports of merchandise at the ports of Detroit, Huron, Grand Rapids, Michigan, and Superior during the year 1900 aggregated in value, $6,023,623; and exports, $31,290,741.

In 1900 the children of school age numbered 721,698; the enrollment in public schools 504,983; and the average daily attendance, 350,000. There were 15,924 teachers, 8,035 public school buildings, and school property valued at $19,338,173. The receipts for the previous year amounted to $6,660,800 and the expenditures $7,297,691. For higher education there were 261 public high schools, 441 private and select schools, and in these schools, 52,239 pupils were enrolled; 3 State normal schools and 3 private normal schools, and 11 colleges and 1 university. All these institutions are coeducational. The colleges include the University of Michigan, at Ann Arbor; Agricultural College, at Lansing, and others.

The strongest denominations in the State are the Roman Catholic; Methodist Episcopal; Regular Baptist; Lutheran, General Conference; Lutheran, Independent Synods; Presbyterian; Congregational; Protestant Episcopal; Reformed; German Evangelical Synod; and United Brethren. In 1899 there were 4,460 Evangelical Sunday-schools with 49,880 officers and teachers and 355,200 scholars.

The total length of railroads within the State on Jan. 1, 1901, was 8,250 miles; of which 152 miles were completed during the previous year.

On July 1, 1901, the war loan bonds of 1898 amounted to $416,800, and the Trust Fund Debt, $6,437,608. The sinking funds applicable to the retirement of the war bonds were $288,740. The equalized property valuation in 1901 amounted to $1,587,100,000, and the State tax rate, $2.431 per $1,000.

The governor is elected for a term of two years, and receives a salary of $4,000 per annum. Legislative sessions are held biennially beginning on the first Wednesday of January, and are unlimited as to length of session. The legislature has 32 members in the Senate and 100 in the House, each of whom receives $3.00 per day and mileage. There are 12 Representatives in Congress. The State government in 1903 was Republican.

This region was first visited by Jean Nicolet in 1634, at Sault Ste. Marie, at which locality Father Marquette made the first permanent white settlement in 1668. French settlements were also made at Mackinaw and Green Bay, and in 1701 Detroit became the seat of a French colony under Cadillac. The country passed to the English at the end of the French and Indian War, and during the war of the Indians under Pontiac for the extermination of the whites the garrison of Mackinaw was butchered and Detroit suffered a long siege. The country was held by the English after the close of the Revolution, being delivered to the Americans in 1796. Michigan became a portion of the Northwestern Territory, and in 1802 was annexed to the Territory of Indiana. On Jan. 11, 1803, it was set aside as a separate Territory. It suffered severely during the War of 1812, Detroit and Mackinaw being captured by the British, and the Territory held till the successes of the Americans in 1813. In 1818, all the region N. of Illinois and Indiana was incorporated with Michigan. In 1823, the legislative power was transferred by Act of Congress, from the governor and judiciary to a council of nine persons selected by the President from 18 nominees by the citizens at large; and the judicial term was reduced to four years. In 1825 the council was increased to 13 members, selected as before. Michigan was admitted into the Union as a State, Jan. 26, 1837, and in 1838 the capital was removed from Detroit to Lansing.

Michigan, University of, a coeducational, non-sectarian institution in Ann Arbor, Mich.; founded in 1837. It is one of the leading seats of higher education in the United States, and especially made distinguished progress under the presidency of Hon. James B. Angell, diplomat and educator.

Michigan Agricultural College, a coeducational, non-sectarian institu-

tion in Lansing, Mich.; founded in 1857.

Micmacs, a tribe of Algonquin Indians, the first with whom the English came in contact in America; they remained hostile to the English and their colonies till 1760. They number from 3,000 to 4,000, and are mostly in Nova Scotia, Newfoundland, and New Brunswick.

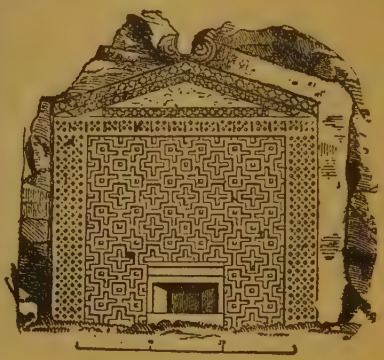
Micrometer, an instrument used with a telescope or microscope to measure small distances, or the apparent diameters of objects which subtend very small angles. Micrometers are variously constructed. The field of the telescope may be provided with a graduated scale, or metallic ring, or a diaphragm having parallel and intersecting spider-lines or fine wires. The micrometer with a graduated scale is used for measuring distances by direct comparison.

Micro-organism, any miscroscopic being of the animal or vegetable kingdom; in a special sense, one belonging to the vegetable group bacteria.

Microphone, an instrument for increasing the intensity of low sounds by communicating their vibrations to a more sonorous body which emits a more audible sound.

Microscope, an optical instrument by which objects are so magnified that details invisible or indistinct to the naked eye are clearly seen. In a simple microscope the magnifying power is interposed directly between the eye and the object, in the manner of a magnifying glass; and though the power may consist of several lenses, they combine as one; a triple set of which either lens can be used singly, or any two, or all in combination, is usual. In a compound microscope, an aerial magnified image of the object is projected by one lens in the manner of a magic lantern, and this image is looked at and further magnified by a second power as in the simple microscope. Of late years glasses have been produced of extraordinary power. An instrument which presents an image to only one eye is called a monocular microscope; but there are several methods of dividing by prisms the pencil of rays from the objective into two sets, which diverge to eye pieces so placed, that both eyes can be used; such an instrument is called a binocular microscope.

Midas, in Greek legend, a King of Phrygia. For his kindness to Silenus he was promised by Dionysus whatever he should ask, and in his folly he asked that everything he touched should become gold; but, as the very food he touched was at once changed



TOMB OF MIDAS, 600 B. C.

into gold, he was soon fain to implore the god to take back his fatal gift. He was told to bathe in the sources of the Pactolus, and from that day to this its sands have yielded grains of gold.

Middle Ages, that period in the history of Europe which begins with the final destruction of the Roman empire, and by some historians considered to end with the Reformation; by others with the discovery of America; by others with the conquest of Constantinople; and again by some with the invention of the art of printing; all of which may be right, according to the special purpose of the historian. In general, it may be said the Middle Ages embrace that period of history in which the feudal system was established and developed, down to the most prominent events which necessarily led to its overthrow.

Middle States, New York, New Jersey, Pennsylvania, and Delaware, in allusion to the fact that at the time of the adoption of the Constitution

they were the central commonwealths of the federation.

Midhat Pasha, a Turkish statesman; born in Bulgaria, in 1825; was educated in Constantinople; entered the Turkish civil service; attracted attention by his administrative capacity; became governor of Bulgaria in 1862; and was ultimately in 1876 created grand vizier. In this position he was supreme in the palace, and caused Abdul Aziz and Murad V. to be deposed. In the following year, however, he was himself banished; and in 1881, after a judicial investigation into the murder of Abdul Aziz, he was condemned and exiled to Arabia, where he died, May 8, 1884.

Midianites, an Arab race, descended, according to Scripture, from Midian, the son of Abraham by Keturah. They occupied great part of the country between the Red Sea and the Plains of Moab, and had their headquarters E. of what is now the Gulf of Akabah. The Midianites were very troublesome neighbors to the Israelites till Gideon's victory over them. Midian ceased to be Egyptian and became Turkish again in 1887.

Midshipman, in the United States navy, the naval cadet whose duty it formerly was to render such service as was required of him by the various officers on the ship, such as carrying messages, etc.

Mieris, Frans Van, a Dutch genre painter; born in Leyden, April 12, 1635. He was a favorite pupil of Gerard Dow. He preferred subjects from the life of the higher classes, excelled in painting rich stuffs, plate, and jewels, his coloring being at once clear and delicate, deep and rich. His pictures, usually of small size, bring enormous prices, and are found in all the chief galleries. He died in Leyden, March 12, 1681.

Mignet, Francois Auguste Alexis, a French historian; born in Aix, Provence, France, May 8, 1796. In the spring of 1824 appeared his "History of the French Revolution," the first complete history by one other than an actor in the great drama. He died in Paris, March 24, 1884.

Mignonette, a well-known and highly fragrant flower, indigenous in Northern and Northeastern Africa. There is a variety called tree mignonette, brought originally from Egypt, now cultivated in America.

Migration, in zoölogy, ornithology, etc., a term applied to the periodical or irregular movements of all animals, especially to those of birds and fishes. In all the temperate parts of the globe there are many genera and species of birds which reside only a part of the year, arriving and leaving at tolerably fixed epochs. Most of the birds that spend their spring and summer in the temperate parts of the United States pass the winter in the far S.; the winter visitants pass the summer in the extreme N., some of them breeding in Greenland, Lapland, or Iceland. Many sea fishes migrate to a limited extent for the purpose of depositing their spawn in favorable situations.

Miguel, Maria Evaristo, Dom, Duke of Braganza, and so-called King of Portugal; born in Lisbon, Portugal, Oct. 26, 1802; son of John VI. On the death of John, in 1826, Miguel was made regent, and offered the hand of Maria da Gloria, the legitimate heir to the throne, then on her way to Portugal. Notwithstanding his oath to the constitution, he caused himself to be proclaimed king, and forbade the entrance of Maria into the country. A revolution ensued, and Dom Pedro came from Brazil to support the claims of his daughter Maria, in which he was aided by France. Dom Miguel was, after several defeats, compelled to sign, in 1834, a capitulation at Evora, and to depart from Portugal. He died in Bronnbach, near Wertheim, Baden, Nov. 14, 1866.

Mikado (Japanese — the Venerable), the Emperor of Japan, the spiritual as well as temporal head of the empire. From 1192 up to the revolution in 1868, the temporal power was in the hands of the tycoon or generalissimo of the army, the spiritual power only being vested in the Mikado, who lived in almost perfect seclusion. The government now is a constitutional one, and the Mikado appears among his subjects.

Milan, a city of Northern Italy, capital of the province of Milan, and the former capital of Lombardy. One of the finest and most pleasing cities of Europe, it is circular in form, and

surrounded by a wall ten miles in circuit, but, like most of the old cities, it is irregularly laid out. The most remarkable among its public buildings are the cathedral, an imposing Gothic structure, inferior only to that of St. Peter's at Rome, or St. Paul's of London, being 485 feet long, 252 feet broad, and height of dome 355 feet, adorned with over 4,500 statues; the church of St. Ambrose, in which the German emperors usually received the Lombard crown; the Palazzo del Corte, or royal palace, and the Teatro della Scala. The city is entered by 10 gates, of which the Porta Orientale is the richest and most remarkable. In the Piazza di Castello is an arena built by Napoleon I. in 1806, on the model of the amphitheater at Rome. Among the principal institutions is the Ambrosian College, containing a library of over 95,000 volumes, and 15,000 MSS., also a gallery of paintings, containing several fine works by Titian, Da Vinci, Luini, Albano, etc., and sketches by Raphael, Pietro de Cortona, and Caravaggio. Milan is the center of the silk trade of Northern Italy; and, besides an extensive trade in rice and Parmesan cheese, is, next to Venice, the largest book mart in Italy. Pop. (1901) 491,460.

Milan I., King of Servia; born in Jassy, Moldavia, Aug. 10, 1854. He studied at Paris, at the Lycee Louis-le-Grand. The assassination of his cousin, Prince Michael, caused his recall to Servia, where he was proclaimed prince at the age of 14. A Council of Regency administered the government till the prince came of age. In 1875 he married Natalie, Princess of Stourdza, from whom he was afterward divorced, and by whom he had a son, who became King Alexander. Owing to the troubles arising out of disagreement with the queen, he abdicated in favor of his son, March 6, 1889. He was reconciled to Queen Natalie in 1893, and in 1894, despite his pledge to the contrary, he returned to Belgrade. After many subsequent vicissitudes he became bankrupt. He died in Vienna, Feb. 11, 1901.

Milan Decree, a decree issued by Napoleon I. from Milan, Feb. 18, 1801, for cutting off Great Britain from all connection with the Continent.

Milan Edict, an edict issued by Constantine the Great from Milan, A. D. 313, granting toleration to Christianity and all other religions in the Roman empire.

Milanes, Jose Jacinto, a Cuban poet; born in Matanzas, in August, 1814. His drama "El Conde de Alarcos" at once gave its author fame, as it contains passages of very passionate poetry. Many of his poems have been translated into English, French, and Italian, and nearly all his works into German. He died in November, 1863.

Milburn, William Henry, an American clergyman and author; born in Philadelphia, Pa., Sept. 26, 1823; became widely known as "the blind preacher," and was many times chaplain of the National House of Representatives, and in 1893 of the National Senate. He died April 11, 1903.

Mildew, a morbid appearance produced on plants by the ravages of parasitical fungi or other cause, or the parasitical fungus itself which produces the morbid appearance. Such fungi are always minute, and sometimes microscopic. Different genera and species attack different plants.

Mile, a measure of length or distance in use in the United States and almost all European countries. The English statute mile, in use in the United States, contains 8 furlongs, or 320 poles, or 1,760 yards or 5,280 feet; in surveying it measures 80 chains. A geographical mile is 6,075 feet (nearly), or 1.15 statute miles.

Mileage, in the United States, fees paid to certain officials, such as members of Congress, of State legislatures, etc., for their traveling expenses, at so much per mile. The system has in the past led to gross abuses, each senator and representative estimating for himself the distance he had traveled. Now, however, there is a fixed table of mileage, and the total annual cost, for both houses of Congress, is nearly $150,000.

Miles, George Henry, an American dramatist; born in Baltimore, Md., July 31, 1824. In 1850 his "Mohammed" won the $1,000 prize offered by Edwin Forrest for the best play by an American author. He wrote many poems, plays, and sketches. He died in Thornbrook, Md., July 23, 1871.

Miles, Nelson Appleton, an American military officer; born in Westminster, Mass., Aug. 8, 1839. At the breaking out of the Civil War, he was engaged in mercantile pursuits in Boston, Mass.; entered the service as 1st lieutenant of the 22d Massachusetts Regiment in October, 1861; and distinguished himself at the battles of Fair Oaks, Charles City Cross Roads, and Malvern Hill. In September, 1862, he was commissioned colonel of the 61st New York regiment, which he led at Fredericksburg and Chancellorsville, where he was severely wounded. He commanded the 1st Brigade, 1st Division, 2d Army Corps, in the Richmond campaign, and was promoted Brigadier-General, May 12, 1864; and brevetted Major-General for gallantry at Ream's Station in December, 1864. At the close of the war he was commissioned colonel of the 40th United States Infantry. He was promoted Brigadier-General in December, 1880; Major-General in April, 1890; and succeeded Lieut.-Gen. John M. Schofield as commander of the army in 1895. He took a prominent part in the wars with the Indians in 1874 and thereafter. On July 13, 1898, he went to the front and assumed personal command of the army around Santiago, Cuba; and after the surrender of the Spanish army commanded the expedition which left Guantanamo Bay, July 21, landed at Guanica, Porto Rico, July 25, and was marching on San Juan, the capital, when the armistice stopped hostile operations. On the reorganization of the army in 1901 the grade of Lieutenant-General was revived and he was promoted to it. In December, 1901, he publicly expressed satisfaction with Admiral Dewey's report on Rear-Admiral Schley and was reprimanded therefor. He was retired upon reaching the age limit, August, 1903. He has received many tokens of public esteem.

Milfoil, or **Millefoil,** a plant so-called because the leaves are thrice pinnatifid. They are linear oblong, and have linear axile segments. The flowers are white, pink, or purple. It is highly astringent. The Scotch Highlanders make it into an ointment.

Militarism, a term principally used in reference to the policy of maintaining great standing armies.

Military Academy, United States, a technical educational institution, established at West Point, N. Y., by Act of Congress, in 1802.

Each United States Senator, Representative in Congress, and Territorial Delegate — also the District of Columbia — is entitled to have one cadet at the academy. There are also 30 appointments at large, especially conferred by the President of the United States. The number of students is thus limited to 481, although extra cadets from other American republics are sometimes permitted to attend the academy at their own expense by authority of Congress.

Appointments are usually made one year in advance of date of admission by the Secretary of War, upon the nomination of the senator, representative, or delegate. Appointees to the military academy must be between 17 and 22 years of age, free from any infirmity which may render them unfit for military service, and able to pass a careful examination in reading, writing, orthography, arithmetic, grammar, geography, and history of the United States.

The course of instruction requires four years, and is largely mathematical and professional. The principal subjects taught are mathematics, French, drawing, drill regulations of all arms of the service, natural and experimental philosophy, chemistry, chemical physics, mineralogy, geology, and electricity, history, international, constitutional, and military law, Spanish, and civil and military engineering, and art and science of war, and ordnance and gunnery. The discipline is very strict — even more so than in the army — and the enforcement of penalties for offenses is inflexible rather than severe.

From about the middle of June to the end of August cadets live in camp, engaged only in military duties and receiving practical military instruction. Cadets are allowed but one leave of absence during the four years' course, and this is granted at the expiration of the first two years. The pay of a cadet is $540 per year, and, with proper economy, is sufficient for his support. The number of students at the academy is usually about 425.

Upon graduating cadets are com-

missioned as second lieutenants in the United States army. The whole number of graduates from 1802 to 1900, inclusive, was 3,993. In the course of studies, the discipline maintained, and the soldierly character of the graduates, West Point is far superior to similar institutions in England and on the European continent, where birth, more than merit, governs the selection of students.

Military Bicycle Corps, bodies of completely drilled and equipped troops trained to the use of the bicycle attached to the armies of several countries.

Military Masts, masts on a a modern fighting ship, provided purely for military purposes, and not to carry sails. They are of steel, and hollow, and through them access is had to the various structures connected therewith.

Military Order of Foreign Wars, an American organization founded in New York, Dec. 27, 1894, by veterans and descendants of veterans of one or more of the four foreign wars which the United States had been engaged in, to-wit: The War of the Revolution, the War with Tripoli, the War of 1812, and the Mexican War. Since the establishment of the order the United States has fought its fifth foreign war. By an amendment to the constitution all American officers who participated in the war with Spain in 1898, are rendered eligible to membership as veteran companions.

Military Orders, in Europe, religious associations whose members united in themselves the double characters of monk and knight. These orders arose about the period of the Crusades, the first to be formed being the Hospitallers. Their primary duties were to tend sick pilgrims at Jerusalem, afterward to protect them also on their way to the Holy City. The order of the Templars soon followed, and to these many others were later added. These religious associations have mostly been abolished or have fallen into disuse, though some still subsist as orders of knighthood.

Militia, the civilian military force of a nation consisting of citizens trained to arms, and subject to be called forth to enable the executive to execute the laws of that country, suppress insurrection, and repel invasion. They are not a standing army in the sense of being continually under arms, but are subject to the call of the President in the event of war. The organization is generally spoken of in the United States as the National Guard. On Dec. 1 the total organized force was 105,845 men. This was divided as follows: 911 generals and general staff officers, 4,576 cavalry, 5,459 artillery, and 96,899 infantry.

Militia, Naval, a body organized in a number of the United States, under authority of an Act of Congress, and forming a part of the State militia. The duty of the naval militia in time of war is to man the coast and harbor defense vessels, thus leaving free the regular force to carry on offensive operations at sea. In 1901 this militia was organized in 19 States and in the District of Columbia.

Milk, the fluid secreted by all female mammals for the nourishment of their young. As an alimentary substance, it may be regarded as a perfect food. It consists essentially of a solution of sugar, albuminous and saline matter, and holds in suspension a certain portion of fat in the form of very minute globules. The same constituents are found in the milk of all the mammals, but they differ considerably in the proportion in which they are present in each kind. In all large American communities strict ordinances are enforced to prevent the sale of impure or adulterated milk.

Milk Snake, a harmless snake of a grayish ash color, with three rows of dark spots along the back and sides. It is found in the Northern and Middle United States.

Mill, a money of account in the United States, being the thousandth part of a dollar, or tenth part of a cent. The mill, however, is not coined.

Mill, a machine for grinding grain, fruit, or other substances, and reducing them to a fine powder. Also a machine, or complication of engines or machinery, for working up raw material, and preparing it for immediate use or for employment in a further stage of manufacture; as, a cotton mill, a spinning mill, a saw mill, an oil mill, a cider mill, etc.

Mill, James, an English political economist; born in Forfarshire, Scotland, April 6, 1773. In 1818 he published his admirable "History of British India"; a work of great research and powerful reasoning. He also produced several valuable works on legislation and morals, viz., his "Elements of Political Economy," "Laws of Nations," etc. In morals and legislation he was the powerful auxiliary of Jeremy Bentham; in political economy the ally of Adam Smith and Ricardo; and in philosophy he was a follower of Bacon and Locke. He held the office of chief examiner of accounts to the East India Company. He died in Kensington, June 23, 1836.

Mill, John Stuart, an English philosopher and political economist; born in London, England, May 20, 1806. All his studies, in which he showed remarkable precocity, were conducted under the superintendence of his father, and under the paternal roof. From 1835 to 1840 he was editor and part proprietor of the "London and Westminster Review," in which many of his own articles appeared. His "System of Logic, Ratiocinative and Inductive," appeared in 1843 and was followed by a long list of standard works. His "Autobiography" was published after his death, which occurred in Avignon, France, May 8, 1873.

John Stuart Mill was a positivist in his philosophy, inasmuch as he adopted some of the leading principles of Auguste Comte, but in his historical relations as well as in its fundamental principles, his philosophy does not belong to positivism but to the school of speculative empiricism, successively and variously developed by Locke, Berkeley, Hume, Hartley, and James Mill, the aim of which is to establish a psychology on the basis of experience and in alliance with the natural sciences.

As an economist Mill occupied a double and somewhat conflicting position. In his "Principles of Political Economy" he assumes the position of a logical exponent of the principles of the utilitarian school of Adam Smith, Ricardo, and James Mill, founded on the orthodox doctrine of proprietary rights, but he was by no means an unquestioning adherent of this doctrine. In regard to proprietary rights, he drew a distinction between landed and movable property. The soil he held to be the property of the community, and individual property in it to be a right held contingently on the consent of the State. The socialistic principle of the right of labor he did not consider it reasonable absolutely to repel. He held that it was possible for the State to guarantee employment provided it took the multiplication of the people under its control, and he believed that public opinion might be so educated that the restriction against undue multiplication might be made a legal one.

Millais, Sir John Everett, an English painter; born in Southampton, England, June 8, 1829. In portraiture he held the foremost rank, and painted a number of the most distinguished men of his day. Many of the works of Millais are well known by engravings. He was chosen president of the Royal Academy in 1896. He died in London, Aug. 13, 1896.

Millennium, in Scripture, a period of 1,000 years, during which Satan shall be confined to the bottomless pit, having first been bound, by an angel, with a great chain (Rev. xx: 1–3), while the souls of those who have been "beheaded for the witness of Jesus," and have not worshiped the beast or his image, or received his mark on their foreheads or their hands, shall live and reign with Christ for 1,000 years (Rev. xx: 1–6).

During the first three centuries, when Christians were at intervals in danger of martyrdom, and many actually suffered death, the millennium loomed largely before their minds; the second advent of Christ, interpreted literally, was considered to be premillennial, and the millennium to be a literal reign of Him and the martyrs. From about the year 950 yet another opinion arose and gained extensive credence.

The millennium to be heralded by the coming of Jesus, began with His first advent, and was now about closing. Many landed proprietors, therefore, believed they should no longer require their estates, and might atone for their sins by giving them over to the Church, the deed of bequest commencing with the words Appropin-

quante mundi termino (As the end of the world is approaching), and the estates were not returned when it was found that the world outlasted the year 1,000. Various opinions concerning the millennium are now held.

Miller, Charles R., editor-in-chief of the New York "Times"; born in Hanover, N. H., Jan. 11, 1849; graduated from Dartmouth in 1872; on staff of Springfield "Republican," 1872–75; with New York "Times" since 1875, and editor-in-chief since 1883. Within recent years, under Mr. Miller's editorship, and the business management of Mr. Ochs, the paper has achieved marked success.

Miller, Cincinnatus Heine, better known as Joaquin Miller, an American poet; born in Wabash district, Ind., Nov. 10, 1841. His checkered life included the extremes of being a California gold miner, editor of an Oregon newspaper, an Oregon lawyer and judge, a social lion in London, journalist at Washington, D. C., etc. His "Collected Poems" appeared in 1882. After that he published both poetry and prose.

Miller, Emily Huntington, an American educator; born in Brooklyn, Conn., Oct. 22, 1833. She was president of the Woman's College of the Northwestern University, Ill.

Miller, Harriet (Mann), pseudonym Olive Thorne Miller, an American writer of children's stories; born in Auburn, N. Y., June 25, 1831; particularly distinguished for her descriptive books of birds and their habits.

Miller, Joseph Nelson, an American naval officer; born in Ohio, Nov. 22, 1836; joined the navy in 1851; was promoted lieutenant in 1860; served with distinction through the Civil War, and after successive promotions was made rear-admiral March 21, 1897. He represented the United States navy at Queen Victoria's Jubilee in 1897, having the "Brooklyn" as his flagship. As Commander-in-Chief of the Pacific Station he raised the American flag at Honolulu in August, 1898, indicating the change of sovereignty of the island. He retired, Nov. 22, 1898.

Miller, Warner, an American legislator; born in Oswego co., N. Y., Aug. 12, 1838; was graduated at Union College in 1860. When the Civil War broke out he enlisted in the 5th New York Cavalry, and was afterward promoted to 1st lieutenant. On the resignation of Thomas C. Platt, in 1881, he was elected to fill that unexpired term in the United States Senate; in 1888 was the Republican nominee for governor of New York, but was defeated.

Miller, William, an American religious leader; born in Pittsfield, Mass., Feb. 15, 1782. In 1815 he took up his residence at Low Hampton, N. Y. He became deeply interested in the prophecies of the Bible and in 1831 predicted the second coming of Christ and fixed the year 1843 as the time at which the world would be destroyed. Hundreds of people became converts to his belief and before the appointed time had arrived had given up their business and devoted themselves to preparation for the event. The believers in the peculiar doctrines of this sect are now called Millerites or Second Adventists and have their headquarters at Battle Creek, Mich. Miller died in Low Hampton, N. Y., Dec. 29, 1849.

Miller, William Henry Harrison, an American jurist; born in Augusta, Oneida co., N. Y., Sept. 6, 1840. He was graduated at Hamilton College. In 1874 he went to Indianapolis, and entered into partnership with Benjamin Harrison. When the latter was elected to the presidency, he choose Miller to be Attorney-General in his cabinet.

Miller, Fort, a Revolutionary defensive work on the site of the present village of Fort Miller, in Fort Edward township, Washington co., N. Y.; on the Hudson river, 40 miles N. of Albany.

Millet, the common name for a great number of cereal plants, the grains of which are used as food, and for making a kind of beer, in various countries.

Millet, Francis Davis, an American artist and author; born in Mattapoisett, Mass., Nov. 3, 1846; was graduated at Harvard College in 1869. His art work was largely in connection with expositions. He was very successful as correspondent of the London "Daily News" in the Turco-Russian war; was special correspondent

of the London "Times" and "Harper's Weekly" at Manila, and a frequent contributor to periodicals. He has published a number of books.

Millet, Jean Francois, a French painter; born in Gruchy, near Cherbourg, France, Oct. 4, 1814. In 1849 he left Paris and settled among the peasants of Barbizon, on the edge of Fontainebleau Forest, and devoted himself to transferring their simple everyday life to his canvases, which he did with great truth of sentiment and subdued poetic charm. Of his paintings may be mentioned "The Angelus," which was sold by auction in Paris, in 1889, for about $115,000. He died in Barbizon, France, Jan. 28, 1874.

Milliard, the French collective name for a thousand millions; familiar in connection with the five milliards of francs (5,000 millions of francs, or $1,000,000,000) paid by France as war indemnity to Germany in 1871–1873.

Millimeter, a French lineal measure equal to the thousandth part of a meter, or, .03937 of an English inch.

Mills, Abraham, an American writer; born in Dutchess co., N. Y., in 1796. He published "Literature and Literary Men of Great Britain and Ireland," etc. He died in New York city, July 8, 1867.

Mills, Albert Leopold, an American military officer; born in New York city, May 7, 1854; was graduated at the United States Military Academy in 1879. He was appointed captain of volunteers May 12, 1898, and served in the war with Spain, being conspicuous for bravery at Las Guasimas and Santiago. He received the brevets of major and lieutenant-colonel for gallantry and was appointed superintendent of the United States Military Academy, Aug. 22, 1898.

Mills, Robert, an American architect; born in Charleston, S. C., Aug. 12, 1781; became architect for the United States government in 1830; and drew the plans for the United States postoffice and treasury buildings. He was the architect of the Washington Monument, on which work was started, in 1848, on the site chosen by General Washington for a memorial of the Revolutionary War. He died in Washington, D. C., March 3, 1855.

Mills, Roger Quarles, an American politician; born in Todd co., Ky., March 30, 1832. In 1849 he removed to Texas and was a member of Congress from that State in 1873–1892. He served in the Confederate army during the Civil War. While chairman of the Ways and Means Committee (1887–1889) he introduced the Mills Bill. He represented Texas in the United States Senate 1892–1899.

Millsaps College, an educational institution in Jackson, Miss.; founded in 1892 under the auspices of the Methodist Episcopal Church.

Mills Bill, a tariff bill, named from the chairman of the Ways and Means Committee (R. Q. Mills) of the National House of Representatives, passed by the Democratic House in 1888 and rejected by the Republican Senate. It placed wool, lumber, hemp and flax on the free list and reduced duties on pig-iron, woolen goods, etc.

Mills College, an educational, nonsectarian institution for women, in Seminary Park, Cal.; founded in 1871.

Milman, Henry Hart, an English historian; born in London, England, Feb. 10, 1791. In 1838 he edited Gibbon's "Decline and Fall of the Roman Empire," and in 1839 published a "Life of Gibbon." He published in 1855 his most important work, "The History of Latin Christianity down to the death of Pope Nicholas V." He died near Ascot, Sept. 24, 1868.

Milo, wrestler and athlete of Crotona in Italy, of extraordinary strength and endurance.

Miltiades, an Athenian general, hero of Marathon. He was the youngest son of Cimon, and succeeded his brother Stesagoras about 515 B. C., as tyrant of the Chersonese. On occasion of the second Persian invasion of Greece, 490, Miltiades signalized himself by a great victory over the Persians, on the field of Marathon. Having persuaded the Athenians to give him the command of a fleet, he used it for private ends in an attack on Paros. The attack failed, Miltiades was severely wounded, and on his return to Athens was prosecuted and imprisoned for deceiving the people. His death took place in prison soon after, about 489 B. C.

Milton, John, an English poet; rn in London, England, Dec. 9, 08. His father, a notary, was a an of cultivated mind, and gave him careful education, which was con- nued at St. Paul's School and the niversity of Cambridge. He entered e latter in 1624, and quitted it in 31, without taking his degree of . A. His first polemical work was treatise "Of Reformation" (1641). n the establishment of the Protect- ate Milton became secretary to romwell, and remained so till the ath of the latter in 1658. Several ars before that time he had become tally blind, deliberately and heroic- ly preferring as he says, the loss of s sight to the desertion of his duty. ne last short intervals of sight allot- d him were devoted to the composi- on of the "Defense."

In 1665, being in his 57th year, he mpleted "Paradise Lost," and it as published in 1667. It was sold r $25 to a bookseller, who engaged to y a like sum for each 1,500 copies at should be sold from each of the ree editions of 2,000 each. In two ars the first of these additional pay- ents was due and made; a second ition was published in 1674, and a ird in 1678. This was a large sale that age, even for the greatest epic the English language. His second ic was written with great quickness, rhaps altogether during a retire- ent of several months which he made Chalfont in Buckinghamshire, on e breaking out of the plague in ondon in 1665. He died in London, Sunday, Nov. 8, 1675.

Milwaukee, a city, port of entry, unty-seat of Milwaukee co., Wis., d the largest city in population and portance in the State; on the W. d of Lake Michigan, 85 miles N. by '. of Chicago, area 22 square miles; op. (1890) 204,468; (1900) 285,315. has a beautiful harbor into which retch many extensive piers utilized steamboat lines; and has regular mmunication by water and rail with l the chief cities on the Great Lakes. The Milwaukee river extends rough the principal part of the city, d with the Menominee and Kinnick- nia rivers, with which it connects, vides it into three sections, known re- ectively as the East, West, and South sides. All of these rivers are navigable for the largest lake vessels.

The public buildings include the County Court House, a magnificent edifice erected at a cost of $4,100,000; the City Hall, finished in 1896, at a cost of $1,200,000; and many others.

Milwaukee is an important manufacturing center. Its flour mills are very large, often having a daily output of 10,000 barrels, and its grain elevators have a capacity of 5,500,000 bushels. Milwaukee lager beer is known all over the United States, and its output amounts to about 2,000,000 barrels annually. Pork packing is here carried on extensively. According to the Federal census of 1900 the city had 3,342 manufactories, employing $110,363,854 capital, and 48,328 persons; paying $20,240,656 for wages and $65,118,719 for materials; and having a combined output valued at $123,786,449.

Milwaukee was founded in 1835, and chartered as a city in 1846. The first white settler on the site of the city, was Juneau, a French fur trader, who came here in 1817, when the place was a Pottawattamie village. The growth of the city has been very rapid. The Germans, who make up one-half of the population, have everywhere made their influence felt in the social life of the inhabitants.

Mimeograph, an instrument by which copies of any document may be transcribed and multiplied, through the use of a stencil made of thin paper prepared with paraffine or similar substance, which is put upon an ordinary typewriting machine, and receives the impression of the letters in the ordinary way.

Mimosa. About 200 are known, the majority American, the rest from India and Africa. They are prickly herbs or shrubs, and sometimes climbing; the leaves are bipinnate, and in some species sensitive.

Mimusops, a large evergreen tree largely cultivated in India. During the hot season it produces many small, fragrant flowers, which fall plentifully. The small, oval berries are eaten by the poorer Hindus. The sapwood is large, whitish, and very hard, the heart-wood red. It is used for house building, carts, and cabinet work.

Mind, Human. The human mind may be considered either as a whole or as comprehending various powers, active or passive, faculties, or capacities, which may be specially observed and described. This susceptibility of division indicates the greatness of the subject. A preliminary difficulty also attends the inquirer at its threshold. It cannot be defined or illustrated by reference to other subjects. Mind is unlike anything else. If we are to know anything about it it must be by direct observation. This indicates the method of inquiry suitable to the subject; and it is to the neglect of this method that most of the confusion and contradiction, as well as some of the obscurity which surrounds it, is to be ascribed. This method is that properly called the psychological; for its establishment or restoration modern philosophy is indebted to Descartes.

A much agitated question is as to the origin of the soul in connection with the human body. Various answers have been given to this question by spiritualists. Pythagoras, Plato, and others, believed in the preexistence of the soul. Tertullian, Luther, and Leibnitz held that all human souls existed in germ in our first parent, and have been transmitted by generation. The most common opinion is that each soul is created by God at the moment of its junction with the body. Another question much agitated relates to the extent of the functions of the soul. The great majority of philosophers attribute to its origination all the vital functions of the body. Another class, however, among whom is Maine de Biran, limit it to the voluntary and intelligent actions; and some of this class give man both an animal soul, like the beasts, and a mind, spirit, or intelligent soul. Another question which has caused great perplexity is the extent of the resemblance between human and brute intelligence. It is clear that observation supplies no absolute distinction between human and brute intelligence except one of degree. We have at least not been able to discover any faculty or attribute of human intelligence of which some germ may not be discovered at least among the higher animals. But the consequences of this analogy appeared so formidable to Descartes that he abandoned the method of observation and took to that o hypothesis in order to demolish it According to him the lower animal were pure automata, or organized ma chines. This hypothesis, which is ac tually introduced in his "Discours on Method," though not directly con nected with psychology, is as great deviation from his own method, of re ceiving nothing as truth but what i clearly demonstrated to be such, a could well be practised.

The question of the immortality o the soul is usually associated wit the question of its origin, material o immaterial, but it is more properly as sociated with theism or atheism. H who believes that the author of ou being is an infinite intelligence, ma reasonably assume the permanence o his work; but he who attributes it t a blind chance has no criterion t guide him in estimating future possi bilities. The division of the powers o the mind into particular faculties ma be considered as partly natural an partly arbitrary. Every philosophe adopts, to some extent, a classificatio of his own, but the distinction of such powers as memory, imagination, an reason cannot be held as merely arti ficial. The faculties are frequently grouped in a threefold division, a those of emotion, intellect, and will.

Mindanao, one of the Philippine Islands, next to Luzon in point of size; length, about 300 miles; breadth 105 miles; area, 34,250 square miles; pop. about 600,000. All the country, except on the sea-coast, is mountainous, the volcano of Apo being 8,818 feet high. Some coffee, cocoa, and cotton are exported. The chief town is Zamboanga or Samboangan, a port and naval station at its W. extremity. This island was ceded by Spain to the United States, Dec. 10, 1898.

Mindoro, one of the larger of the Philippine Islands, situated S. of Luzon, from which it is separated by the Strait of Manila; length about 110 miles, breadth about 53 miles; area, 3,934 square miles; pop. about 60,000. It is evidently volcanic, the climate is hot and the rain almost incessant. Rice, cacao, and wild cinnamon are among the products.

Mineralogy, the natural history of the mineral kingdom, considered as a pure science. The observations made

first related simply to the usefulness minerals to the purposes of society, id it was not before the lapse of any ages that they came to be in-stigated on account of their great riety and the beautiful arrangements which they are susceptible.

The general subdivisions in the assification of minerals adopted by ana in the last edition of his work "Mineralogy" are as follows:

I.— Native Elements.

Series 1.
1. Gold group. 2. Iron group. 3. Tin group.

Series 2.
1. Arsenic group. 2. Sulphur group. 3. Carbon-silicon group.

Series 3.
1. Chlorine, bromine, iodine group.
2. Fluorine group.
3. Oxygen group.

II.— Compounds.

The more negative element an element of series 2 (above).

1. Binary.	2. Binary.	3. Ternary.
ulphides, etc., of metals of sulphur and arsenic groups.	*Sulphides, etc., of metals of gold, iron and tin groups.*	*Sulpharsenites. Sulphantimonites. Sulphobismuthites.*

III.— Compounds.

The more negative element an element of series 3, group 1 (above).
Chlorides. Bromides. Iodides.

IV.— Compounds.

The more negative element an element of series 3, group 2 (above).
Fluorides.

V.— Compounds.

The more negative element an element of series 3, group 3 (above).
1. *Oxides.* 2. *Silicates, Phosphates, Nitrates, Borates, etc., etc.*

VI.— Hydro-Carbon Compounds. Minerals of Organic Origin.

Mineral Tallow, or **Hatchettine,** a remarkable substance found in several places in Germany, Siberia, etc., soft and flexible, yellowish white, yellow, or greenish yellow, resembling wax or tallow, often flaky like spermaceti, and composed of about 86 per cent. carbon and 14 per cent. hydrogen. The mineral is closely related to, if it be not identical with, ozocerite or native paraffine. Like other hydro-carbons, such as naphtha, petroleum, asphalt, etc., hatchettine appears to have resulted from the chemical alteration of organic matter.

Mineral Waters, waters so far impregnated with mineral matter as to give them a peculiar taste or smell, and specific medicinal properties. The production of mineral waters in the United States during the calendar year 1900 was reported 47,558,784 gallons, from 561 springs, valued at $6,245,172, Wisconsin, Texas, Massachusetts, New York, Michigan, California, and Minnesota being the largest producing States in the order given.

Minerva, in Roman mythology, the goddess of wisdom and war, the liberal arts, science and learning. The serpent, the owl, and the cock were sacred to her; and among the plants, the olive. She was worshiped over all parts of Greece; but her great temple was the Parthenon at Athens, where she was the presiding goddess, and in which fane there was a colossal statue of her, by Phidias, overlaid with ivory.

Mines, John Flavel, pseudonym Felix Oldboy, an American journalist; born in Paris, France, Jan. 27, 1835. Originally a student of theology, he entered the army as chaplain in 1861; but afterward abandoned the ministry, received a commission, and was mustered out as lieutenant-colonel in 1865. Died in New York city, Nov. 5, 1891.

Miniature Painting, the painting of portraits on a small scale. It originated in the practice of embellishing manuscript books. The last famous miniature painter was Sir William Ross (1794–1860), who lived to see his art superseded by photography. The number of his miniatures in existence is said to number over 2,200. Photography may be said to have killed the art, though miniatures have continued to be painted; but enthusiasts hope from the interest now taken in historical specimens that the art may yet be revived.

Minie, Claud Etienne, a French military officer, inventor of the Minie

rifle; born in Paris, France, in 1814. He devoted his principal thought to the perfecting of firearms, and in 1849 invented the Minie rifle. In 1858 the Khedive of Egypt appointed him director of a small arms factory and musketry school in Cairo. He died in 1879.

Mining, the processes whereby minerals are obtained from their natural localities beneath the surface of the earth, and the subsequent operations by which many of them must be prepared for the purposes of the metallurgist. The art has been practised from the remotest times. In the case of horizontal beds lying parallel to the stratification of the surrounding rocks and below water level a shaft is sunk till the mineral is reached. Machinery is used to extract the whole of the mineral, due precautions being taken to avoid danger from falls of roof and from noxious gases. In the case of veins or lodes and inclined beds the inclination and change of direction have to be studied. The miner looks unfavorably on vertical veins; for he considers that the chance of their being productive is much less than in inclined ones. In some cases a vertical shaft is sunk, and passages, known as cross-cuts are driven from this to the vein at different levels. A vertical shaft presents the advantages of greater ease in sinking, hauling, and pumping. At the Comstock lode in Nevada, thousands of dollars were wasted in sinking a perpendicular shaft, the advantages of which were urged with considerable plausibility. A deep shaft may cost from $50,000 to $250,000. In the case of an inclined shaft the ore obtained from the shaft itself enables some of the charges to be recouped.

With inclined shafts it is often out of the question to put in the highly-perfected engines used at collieries, the object being not the removal as quickly as possible of large quantities of material, but the exploration of the vein by slow and careful degrees at many points and with a moderate number of men. In the anthracite coal mines of Pennsylvania, a large majority of the mines are opened by inclined shafts or "slopes."

Many notable mines have been discovered by accident. Thus, the observation of the pellets picked up by birds led to the discovery of veins of gold in Lower Hungary. The famous silver mines of Potosi are said to have been discovered by an Indian, who, taking hold of a bush to prevent his falling, pulled it up by the roots and thereby disclosed glittering masses of native silver. Gold was discovered in California by James W. Marshall, in 1848, while cutting a small millrace.

Prospecting for ores of the heavy metals is carried on generally by surface examination. The "float" or loose ore being discovered in stream beds or in gullies, is traced to its source in the hillsides or places where the bare rock is exposed. As the veins are usually highly inclined, they intersect the surface, and often make prominent ridges. The further exploration, after the finding of the vein, consists in tracing its course on the surface, and in excavations in the vein itself, which often produce sufficient ore to repay the cost of exploration. In the search for horizontal deposits, the best evidence is obtained by putting down bore holes. These are made by various methods, and are put down to a depth of a few feet when required for testing the character of the foundation subsoil, or, in other cases, to thousands of feet when required in seeking for or estimating the value of deposits of coal, salt, and iron ore. Ages ago bore holes were put down by the Chinese to a depth of 3,000 feet. Recently, in America and Europe, greater depths have not infrequently been attained. A bore hole at Pittsburg, Pa., was sunk to a depth of 4,625 feet. At Schladebach, near Merseburg, the deepest bore hole in the world was put down by the Prussian government in search of coal, and the depth attained amounted to 5,834 feet.

The average depth of coal mines before the introduction of the steam engine did not exceed 100 yards. The deepest shaft in the world was till recently that of a silver lead mine in Bohemia, at Przibram, where the Adalbert shaft is 3,432 feet in depth. This depth has, however, been exceeded in the Lake Superior copper-mining district, where a number of shafts have reached a depth of 4,000 feet, and one, the Red Jacket of the Calumet & Hecla Co., was sunk to a depth of 4,880 feet.

Many deposits of gold ores, as those irst worked in California and those of the Klondike, are in the gravel or sand in the present or ancient stream beds. Such deposits are called "placers." In working these deposits in the beds of existing streams, the course of the stream may be deflected by a dam and sluice, and the water of the stream utilized for separating the gold from the gravel which may be dug from the stream bed. In the case of larger streams, mechanical dredges remove the material from the bottom, which after separation of the gold is returned to the stream bed. In the old placers which are abandoned stream courses, generally above water level, hydraulic mining is resorted to. A stream of water from 6 to 12 inches in diameter and under the pressure caused by a head of several hundred feet is directed on the hillside where the old placer outcrops and rapidly washes it away. The material removed is sorted by the same water and the gold separated.

As a general rule, in the United States, whoever is the owner of freehold land has a right to all the mines underneath the surface, for his absolute ownership extends to the center of the earth; but under special grants and contracts it is not uncommon for one person to be owner of the surface of the land and another to be owner of the mines beneath; or several persons may be owners of different kinds of mines lying one above the other in different strata. On the public lands of the United States, a title or license may be obtained by any citizen from the general land office at Washington, at the rate of $5 per acre of surface preëmpted; no royalty is paid, but the claim must be worked in accordance with both local regulations and with the general mining laws, which prescribe as one condition the performance of a certain amount of work annually. If this condition is not fulfilled, the mine may be "denounced" and any other person may secure the claim.

Minister, in politics, one to whom a sovereign intrusts the direction of affairs of state. In the United States the term is officially applied only to diplomatic representatives in rank next to ambassador. Clergymen below the rank of bishop are popularly called ministers.

Miniver, the Siberian squirrel, which has fine white fur; also the fur itself.

Mink, a popular name for several species of quadrupeds, which are found in the N. parts of both hemispheres, and are valuable as fur-producing animals. The body is stouter than that of a stoat or weasel, and from 15 to 18 inches long. The scent glands are well-developed, and their secretion is only second in offensiveness to that of the skunk. It is aquatic in its habits, and feeds chiefly on fish and amphibious animals, preying largely also on smaller mammals. In the United States the mink is domesticated and trained as a rat-catcher.

Minneapolis, a city and county-seat of Hennepin co., Minn.; on both banks of the Mississippi river; the celebrated Falls of St. Anthony being in the heart of the city; 10 miles N. W. of St. Paul, with which it is connected by three lines of railway and electric cars; area, 53 square miles; pop. (1900) 202,718. The city owns a system of waterworks costing $4,342,000.

There are in all 790 miles of streets, of which 100 are paved. The sewerage system has a total length of 145 miles. The city is lighted by gas and electricity. The annual death rate averages 10.63 per 1,000. In proportion to population, Minneapolis has a greater park area than any other city in the United States. There are 22 parks with boulevards and parkways, beautifully laid out and with an extent of more than 15 miles. There are many bridges across the river, several being massive structures of stone and steel. The Great Northern Railway's stone viaduct is a magnificent specimen of engineering.

There are many beautiful residences and substantial business blocks. Among the more notable buildings are the new City Hall and Court House; the Northwestern Guaranty Loan Company; the Postoffice; the West Hotel; the Central High School; the Masonic Temple; Pillsbury Science Hall; the Syndicate Block; and the handsome private residence of W. D. Washburn. Besides these there are about 170 churches, several music halls, opera

houses, theaters, free dispensaries, hospitals, and numerous other charitable institutions.

Minneapolis is in the heart of an immense lumbering region, with an annual output of lumber from the various mills of about 300,000,000 feet. It is also the largest flour manufacturing place in the world, having 25 mills with a combined capacity of over 60,000 barrels a day. In 1900 the city had 2,368 manufacturing establishments, using a capital of $57,708,204, and yielding products valued at $110,943,043.

There are 59 buildings used for school purposes, including 4 high schools. The institutions for higher learning are the University of Minnesota, St. Thomas College (R. C.), Augsburg Theological Seminary (Scand. Luth.) and the Minneapolis Academy; and in the suburbs are Hamline University and Nacalister College. There is a handsome public library, containing about 100,000 volumes.

In 1900 there was a net debt of $6,627,885. The assessed valuations were, real estate $78,668,250; personal property $20,823,804; total $99,492,054.

Minneapolis was settled on the W. bank of the Mississippi river in 1849. It received its charter as a city in 1867, and annexed St. Anthony, which had been founded earlier on the opposite bank, in 1873.

Minneapolis, The, a triple-screw, steel-protected cruiser belonging to the United States navy; 7,375 tons displacement; length, 411 feet, 7 inches; breadth, 58 feet, 2 inches; main draft, 22 feet, 6 inches; main battery, one 8-inch breech-loading rifle, two 6-inch and eight 4-inch rapid-fire guns; secondary battery, twelve 6-pounder and four 1-pounder rapid-fire guns, and four Gatlings; speed, 23.7 knots an hour; crew, 38 officers and 656 men; cost, $2,690,000.

Minnehaha, Falls of, the name given to a beautiful cascade in the Minnehaha river near Minneapolis, Minn., the word Minnehaha meaning in the Indian language "Laughing Water." The cascade falls 60 feet into a most picturesque glen which opens on the Mississippi river. Longfellow has immortalized the name in his Indian maiden, the principal character in the well known and beautiful poem "Hiawatha."

Minnesingers, a class of German lyric poets of the 12th and 13th centuries, so called from love being the chief theme of their verse. They consisted almost exclusively of men of aristocratic birth. They sang their lyrics to the accompaniment of the viol, generally in honor of high-born dames. This remarkable poetical movement gradually merged into that other class of German lyric poets called Meistersingers.

Minnesota, a State in the North Central Division of the North American Union; admitted to the Union May 11, 1858; number of counties, 82; area, 79,205 square miles; pop. (1900) 1,751,394; capital, St. Paul.

The surface of Minnesota is undulating, with no mountains but having a broad, low elevation in the N., 280 miles in length. This elevation constitutes the watershed for three great basins, the Mississippi, the St. Lawrence and the Hudson bay. This elevation is about 1,000 feet above the S. of the State toward which it descends in a gradual slope. There are several elevated plains W. of the Mississippi, of which the Coteau des Prairies, and the Coteau de Grand Bois, are the most extensive. The principal river system is the Mississippi which has its source in this State. The Red river of the North forms over half the W. boundary line of the State. Many small streams flow into Lake Superior, and several discharge into Rainy Lake river, and the chain of lakes running along the N. boundary.

The State has numerous large lakes. The Mississippi river has numerous beautiful waterfalls, the largest being the Falls of St. Anthony, and the cascade of Minnehaha.

The soil is of alluvial deposit of great richness, and especially adaptable to wheat-growing. It is a rich loam from two to five feet in depth. The top covering of the land known as "black dirt" is due to the residuum of prairie fires and accumulations of decayed vegetation. The climate is less rigorous than usual in such latitudes. The winters are long, and the temperature even, with but little snow. The principal forest trees are

ıe oak, beech, elm and maple; spruce, ine, and other coniferous trees; elm, sh, birch, linden, basswood, butter- ut, wild plum, and crab apple.

The N. E. portion of the State is nown as the mineral region and is uite rich in mineral resources. The tate ranks second in the United tates in its iron production. Consid- rable copper and plumbago are found ear Lake Superior, and coal is found ı the N. W. The building stones in- lude granite, sandstone, and lime- tone.

The fertility of the soil, the extent f the country, and abundance of wa- er, make Minnesota an ideal agricul- ural State. The farm crops are wheat, oats, corn, hay, potatoes, bar- ey, rye, and buckwheat.

According to the Federal census of 900 the State had 11,114 manufactur- ng establishments, employing $165,- 32,246 capital and 77,234 persons; aying $32,484,825 for wages and 173,425,615 for materials, and yield- ng products valued at $262,655,881. The principal articles were flour, lum- er, packed meat, and railroad cars.

In 1900 the children of school cen- us age numbered 506,770; the enroll- nent in public schools 399,207; and he average daily attendance 243,224. There were 10,586 teachers, 7,303 pub- ic school buildings, and school prop- rty valued at $16,101,029. The re- eipts for the previous year amounted o $5,716,474 and the expenditures $5,- 30,013. For higher education there were 112 public high schools, 29 pri- ate secondary schools, 5 public, and 2 private normal schools, 9 colleges and niversities for men and for both exes, and the Albert Lea College for Women.

The strongest denominations in the State are the Roman Catholic; Lu- heran, Independent Synods; Method- st Episcopal; Lutheran Synodical Conference; Lutheran General Coun- il; Regular Baptist; Presbyterian; Congregational; and Protestant Epis- copal.

The total length of railroads with- in the State on Jan. 1, 1901, was 7,- 023 miles, of which 251 miles were completed during the previous year.

On Jan. 1, 1901, the total bonded debt of the State was $1,209,000, and on Feb. 1, 1901, there were $399,000 in State bonds held in various Minne- sota towns. The taxable valuation in 1900 was real estate, $490,537,617; personal property, $120,441,641; total, $610,379,258.

The governor is elected for a term of two years, and receives a salary of $5,000 per annum. Legislative ses- sions are held biennially beginning on Tuesday after the first Monday of January, and are limited to 90 days each. The Legislature has 60 mem- bers in the Senate and 119 in the House, each of whom receive $5.00 per day and mileage. There are seven Representatives in Congress.

The site of the present State of Min- nesota was first visited by a French exploring party under Louis Hennep- pin, a Franciscan priest, who ascend- ed the Mississippi river as far as the Great Falls. By the treaty of Ver- sailles in 1763, this region was ceded to Great Britain, and in 1766 it was explored by Jonathan Carver, a native of Connecticut. In 1783 the North- west Territory including Minnesota, E. of the Mississippi, was ceded to the United States. No attempt was made to extinguish the Indian title till 1805, when a purchase was made of the tract of land for military purposes at the mouth of the St. Croix, and another at the mouth of the Minnesota river, including St. Anthony's Falls. In 1827 a small tract of country between the St. Croix and Mississippi was ceded by the Indians to the United States, and lumbering operations commenced upon the St. Croix. The Territory of Minnesota was established, and the government organized in 1849. It em- braced nearly twice the area of the present State, its W. limits extending to the Missouri and White Earth rivers. In 1851 the Sioux ceded to the United States all their lands in the territory between the Mississippi and Big Sioux rivers and in 1858 Minnesota was admitted to the Union. That portion of the State lying E. of the Mississippi belonged originally to the "territory N. W. of the Ohio," while that portion W. of the Missis- sippi was included in the territory known as the Louisiana Purchase. In 1862 the Indians attacked the frontier settlements, and in a few days killed about 800 settlers. In consequence the Sioux and Winnebagoes were removed from the State, and their lands opened to settlement.

Minnesota, The, a single-screw wooden cruiser of the old type, now used by the Massachusetts naval militia. At one time this vessel was one of the largest wooden ships in the United States navy.

Minnesota, University of, a co-educational non-sectarian institution in Minneapolis, Minn.; founded in 1868.

Minniwakan, or **Devil Lake,** in North Dakota, a large lake on the S. border of the Salt Water Region; length about 50 miles, average breadth 15 miles; area about 750 square miles. The waters are too brackish to be drunk by man, though wild animals drink them freely. It has no apparent outlet, and is of a deeper tint than the neighboring fresh-water lakes.

Minnow, or **Minim,** a well-known fish. It grows to a length of seven inches in favorable localities; its average size is about three inches. It is generally found in the same streams with trout, and swimming in schools.

Minor, in ordinary language, a person who is under age; one of either sex who is under a certain age, and therefore legally incapacitated for the performance of certain acts.

Minor Prophets, The, so-called from the brevity of their writings, are 12 in number, viz., Hosea, Joel, Amos, Obadiah, Jonah, Micah, Nahum, Habakkuk, Zephaniah, Haggai, Zechariah, and Malachi.

Minos, in Greek mythology, a ruler of Crete, said to have been the son of Zeus and Europa, and a brother of Rhadamanthus. During his lifetime he was celebrated as a wise lawgiver and a strict lover of justice, and after his death he was made, with Æacus and Rhadamanthus, one of the judges of the infernal world. Also another legendary King of Crete, who forced Athens to send yearly seven boys and seven girls to be devoured by the minotaur.

Minotaur, in Greek mythology, a monster half man and half bull.

Minot's Ledge, or **Cohasset Rocks,** in Massachusetts, a promontory and lighthouse on the S. W. shore of Boston Harbor. It exhibits a fixed light 66 feet high.

Minster, the church of an abbey or priory; but often applied, like the German "Munster," to cathedral churches without any monastic connection.

Minstrel, a singer and performer on musical instruments. Minstrels in the Middle Ages were a class of men who lived by the arts of poetry and music. The minstrels in later times formed a separate guild, uniting for the purposes of mutual protection and support.

Mint, the name given to several herbaceous aromatic plants. They are nearly all perennial, are widely distributed throughout temperate regions, and abound in resinous dots which contain an essential oil. Mint has an agreeable odor, and partakes in the highest degree of tonic and stimulating properties. Spearmint is generally used, mixed with vinegar and sugar, in sauce. Peppermint yields the well-known stimulating oil of the same name. Pennyroyal is used for the same purposes as peppermint.

Mint, the place where a country's coinage is made and issued under special regulations and with public authority. In former times the coinage was made by contract at a fixed price. In the United States there are mints at Philadelphia, established in 1792; at San Francisco, established in 1853; at Carson City, established in 1869, discontinued since May, 1893, and now conducted merely as an assay office; at Denver, established in 1862; and at New Orleans, established in 1835.

In the United States the Bureau of the Mint was established as a division of the Treasury Department in 1873. It has charge of the coinage for the government and makes assays of precious metals for private owners. The rolling machines are four in number. The rollers are adjustable and the space between them is governed by the operator. About 200 ingots are run through per hour on each pair of rollers. When the rolling is completed the strip is about six feet long. As it is impossible to roll perfectly true it is necessary to "draw" these strips, after being softened by annealing. The drawing benches resemble long tables, with a bench on either side, at one end of which is an iron box secured to the table. In this are fastened two perpendicular steel cylinders. These are at the same distance apart

iat the thickness of the strip is re-
iired to be. It is drawn between the
linders, which reduces the whole to
t equal thickness. These strips are
)w taken to the cutting machines,
ch of which will cut 225 disks per
inute. The press used consists of a
rtical steel punch. From a strip
orth $1,100 about $800 of disks will
cut. They are then removed to the
ljusting room, where they are ad-
sted. After inspection they are
eighed in very accurate scales. If
disk is too heavy, but near the
eight, it is filed off at the edges; if
o heavy for filing, it is thrown aside
ith the light ones to be remelted.
he disks after being adjusted, are
ken to the coining and milling
oms, and are passed through the
illing machine. They are fed to this
achine through an upright tube, and
they descend are caught on the
ge of a revolving wheel and carried
out a quarter of a revolution, dur-
g which the edge is compressed and
rced up. By this apparatus 560
alf-dimes can be milled in a minute;
r large pieces the average is 120.
he massive but delicate coining
esses coin from 80 to 100 pieces a
inute. These presses are attended
women and do their work in a
rfect manner. After being stamped
e coins are taken to the coiner's
om. The light and heavy coins are
pt separate and when delivered to
e treasurer they are mixed in such
oportions as to give him full weight
every delivery. By law, the devia-
on from the standard weight must
t exceed three pennyweights in 1,000
uble eagles.

Minto, Gilbert John Murray ynymond Elliot, 4th Earl of, an nglish military officer; born July 9, 47. He was educated at Eton and ambridge; served with the Turkish my in the Afghan war; was private cretary to General Lord Roberts at e Cape; volunteer in the Egyptian mpaign; military secretary to the vernor-general of Canada (the Mar-is of Lansdowne); chief of staff N. W. Canadian rebellion; Briga-er-General commanding S. Scotland fantry; and Governor-General of anada since 1898.

Minuet, the name of a dance said have been invented in Poitou about the middle of the 17th century, and continued to be fashionable till the reign of George III. Also a time or air suited for the dance so called, or composed to the same time.

Minute, a division of time and of angular measure. As a division of time it is the 60th part of an hour. As a division of angular measure it is the 60th part of a degree.

Minute Men, in the American Revolutionary War, the militia, who were prepared for service at a minute's notice.

Miocene, in geology, a term designating the beds formerly called Middle Tertiary. The term Miocene denotes that only a minority of the shells belong to recent species.

Miquelon, Great and **Little,** two islands connected by a long, narrow, sandy isthmus, off the S. W. coast of Newfoundland; area 83 square miles. With St. Pierre they form the sole remaining colony of France in North America. The sole occupation of the inhabitants is fishing.

Mir, the Russian commune, consisting of the inhabitants of one or more villages, who are as a community owners of the surrounding land, and redistribute the same to the members from time to time.

Mira, or **Stella Mira** (the wonderful star), the star Omicron Ceti, a remarkable variable. It is in the neck of "the whale." Its variability was discovered in 1596. The period is somewhat irregular, but averages about 331 days. During the greater part of this time the star remains of about the 9th magnitude, but during about 100 days it rises to a maximum which may vary from the 2d to the 5th magnitude, remains for a week or 10 days there, and then sinks to its minimum again. When shining with a brightness of the 2d magnitude, it is giving out more than 600 times as much light as when at the 9th magnitude.

Mirabeau, Andre Boniface Riquetti, a French viscount who served with bravery in the American War of Independence, but fought against his own country in the French Revolution. Born in Bignon, France, Nov. 30, 1754; killed accidentally at Freiburg, Baden, Sept. 15, 1792.

Mirabeau, Honore Gabriel Riquetti, Count de, one of the most celebrated characters of the French Revolution; born in Bignon, Provence, France, March 9, 1749. In 1784 he visited London, and afterward Berlin; and was variously employed in literary quarrels and occupations till the commencement of the French Revolution. This offered Mirabeau an ample field for his activity. He was elected for Aix and Marseilles to the States-General as deputy of the third estate. The story of his life thenceforth would be the history of the assembly. At first a leader of the Revolution he saw the terrible possibilities of the storm he had helped to evoke, and arranged with the court to use his great influence in checking it. Before he could carry his intentions into effect, a sudden illness terminated his existence in Paris, France, April 2, 1791.

Miracle, a wonderful sight or thing. An event or effect contrary to the established course of things, or a deviation from the known laws of nature.

Miracle Plays, a sort of dramatic entertainments common in the Middle Ages, in which the subjects were taken from the lives of saints and the miracles they wrought. They were originally performed in church, but latterly outside, in market places and elsewhere.

Mirage, an optical illusion by which images of distant objects are seen as if inverted, below the ground or raised in the atmosphere. It is frequently observed on the western plains of the United States. The phenomenon is best observed in the Egyptian or other deserts, and the inverted images so much resemble those made in water as to create the illusion that a lake is really near. The mirage was known in ancient Jewish times; it is mentioned in Isaiah xxxv : 7, "And the parched ground shall become a pool and the thirsty land springs of water." The Fata Morgana, what sailors call the "loomings," the Flying Dutchman, the Enchanted Island, Cape Flyaway, etc., are all produced by the mirage.

Miramon, Miguel, a Mexican military officer; born in the City of Mexico, Sept. 29, 1832; became a student in the government military academy in 1846; participated in the defense of Chapultepec and Molino del Rey 1847; returned to the academ after the war and was graduate with honors; was commissioned a colonel in 1855. He joined the insurrectionary movement and took Puebla but in March, 1856, that place wa retaken and he was captured. H soon escaped, and began a guerill warfare. In 1858 when Zuloaga became president he was made a Brigadier-General; in December, 1858, th government of Zuloaga was over thrown and in January, 1859, Mira mon was chosen provisional presiden of the Conservative government. H was defeated by the forces of the Lib eral party at the battle of Calpulaepa on Dec. 22, 1860, and soon afterwar fled to Europe. When the regency wa installed in 1863 he returned to Mexico, but his services were declined an he was again compelled to flee th country. Later, his offer was accepted by Maximilian and he returne in November, 1866. He was place in command of a division which suffered defeat at the battle of San Jacinto, Feb. 1, 1867. Subsequently h was captured and shot with Maximilian and Mejia in Queretaro, June 19 1867.

Miranda, Don Francisco, Spanish-American military officer martyr in the cause of freedom i South America; born of an old Spanish family in Caracas, Venezuela, Jun 9, 1756. He presented to differen courts plans for the emancipation o the Spanish-American colonies, an with this view went to Paris in 1792 Some time after, he was imprisone in consequence of his political in trigues. In 1794 he was liberated but received orders to quit France and took refuge in England. Havin procured some secret assistance, h sailed from New York in 1806 wit one ship and a number of volunteers and landed in Venezuela; but his at tempts to arouse the inhabitants were unsuccessful, and he found himsel compelled to reëmbark. In 1810 h renewed his attempt with more suc cess, but was finally obliged to capitu late to the Spanish general Monte verde, who, in violation of the article of surrender, treated him as a pris

ner. Miranda was sent to Spain and onfined in the dungeons of the Inquiition of Cadiz, where on July 14, 816, he died, after an imprisonment f four years.

Miribel, Marie Francois oseph de, a French military officer, hief of the general staff of the French rmy; born in Montbonnet, Isere, rance, in 1831. He was at the siege f Sebastopol, and in the Italian camaign in 1850; served under Bazaine n Mexico, and during the siege of aris by the Germans was conspicuous or his gallantry. In 1890 he was ade chief of the general staff of the rmy. By the French he was regarded as their greatest living strategist. he efficiency attained by their army n recent years is attributed to his asterly direction. He died Sept. 11, 893.

Mirror, a smooth surface capable f regularly reflecting a great proporion of the rays of light that fall n it.

Mirza (a contraction of Emir Zaah, "son of the prince"), a Perian title, equivalent to "Prince" hen it follows the surname, and nerely the common title of honor like "Mr.") when it is prefixed to it.

Misdemeanor, an offense against he laws of a less heinous nature than felony.

Miserere, a name given to a psalm n the Roman Catholic service, taken rom the 51st psalm of the Vulgate, eginning "Miserere mei Deus" (Have Mercy on me, O God). Also a piece f music composed for these words.

Mishna, or **Mishnah,** in Jewish iterature the second or oral law, supposed to have been given to Moses to e transmitted to the doctors of the ritten law in all ages. Also the colection of traditional laws, each one f which is called Mishna, or Halacha. The name Mishna is especially given o the canonical work edited by Judah, the Prince (born about A. D. 50). It contains an abstract of the nore ancient Halacha collections made y his predecessors.

Misrepresentation, in law, a alse statement affecting the validity f a contract or transfer of property. Wilful misrepresentation is the same s fraud.

Missal, the book containing the whole service of the mass throughout the year. In its present arrangement its dates from about the middle of the 14th century.

Missing Link. What was claimed to be the missing link between man and the ape was found in 1895, of parts of a fossil in strata on the banks of the Bengawan river, in Central Java. These remains consist of a skull, a thigh bone, and two molar teeth, and from them scientists have constructed an animal, not human, yet nearer to man than the ape. The brain capacity of the skull is as far below that of the lowest existing man, the Papuan, as it is above that of the highest known ape, the chimpanzee. The teeth also show a mixture of human and ape characteristics. The formation of the skull and the thigh bone indicate that the animal walked in an upright position. In 1902 reports were published to the effect that an animal nearer man than the ape had been found alive in Java, and died in the hands of its captors.

Missions, an organized method of propagating a religion; specifically, the propagandism of Christianity among the heathen, based on the command "Go ye into all the world and preach the Gospel to every creature."

The Gospel made great progress during the lifetime of the apostles and found a footing in most countries to the E. and N. of the Mediterranean. It was successfully introduced into Egypt and other African regions. As the result of "the persecutions which arose about Stephen" thousands of converts were scattered abroad and went everywhere "preaching the word." Through the labors of these primitive evangelists under the direction of the apostles, Christian churches were founded in many places. Within a century after Christ the Gospel had probably been preached over a large part of the Roman world. Alexandria early became noted for its missionary college from which teachers were sent to all parts of the world. In 306 19 bishops assembled at Elvira in Spain. Before the time of Constantine there were churches of considerable extent in the S. and N. sections of Britain due not so much to missionaries as to the natural intercourse of Britain

with Rome. These churches, however, became distinguished for their missionary zeal and Saint Patrick is commonly regarded as their leader. He found Ireland entirely heathen and lived to see it become Christian. As the Scotch Patrick was the apostle to Ireland, so in a certain way was the Irish Colomba the apostle of Scotland. The island of Iona with its monastery became a sort of missionary center and Aidan went from there to Northumbria and established missions. The Scotch-Irish missionaries were the evangelists of a large part of the European continent.

The English Boniface became the apostle of Germany. Ansgar, a monk of Corvey in the 9th century, preached in Denmark and Sweden. The story of the mission of the two bishops, Cyril and Methodius, corresponding almost precisely with the conquest of the Slavs by the Variags, is most interesting. This dates back to the year 860. The Russian prince Vladimir was baptized in 988 with all of his sons and his people. What the Irish and the Scots had been doing for Europe in the early Middle Ages the Nestorians had been attempting in Asia. Kublai Khan, a grandson of the famous Genghis Khan, a ruler of the E. Mongol empire, was anxious to learn about Christianity and sent for missionaries to tell him about the new doctrine. It is supposed that the Nestorian-Tartar church flourished till the country was devastated by the Mongols. It is almost certain that the Nestorians introduced the Gospel into India and that they passed through Tartary into China and founded churches there which existed till the end of the 9th century.

The Roman Catholics after the discovery of the new world founded several missionary orders, whose object was the extension of the Church among the Mussulmans of Spain, North Africa and Western Asia. Francis Xavier was sent as an apostolic nuncio for India. Dominican missionaries made many converts on the W. shores of Africa. The story of the Roman Catholic missions to North and South America belongs to the romance of history, being full of wonderful adventures, unselfishness, sacrifice and courage. In 1622 Pope Gregory XV. established a society for the propagation of the Gospel, and that has ever since controlled the mission enterprises of the Church. It has its seat in Rome where there is a college for the training of missionary priests.

Not till two centuries after the Reformation was there any organized attempt made by the Protestants to establish missions. In 1555 a company of men including several missionaries sailed for Brazil with a hope of establishing there an asylum for the Huguenots. The condition of the savage tribes attracted their attention and they made attempts to reach them. They themselves, however, were persecuted and the enterprise was unsuccessful. Those who had not been killed returned to France within a year. Thus the hopes of Coligny and of John Calvin who had taken an interest in the expedition were disappointed. In 1559 Gustavus Vasa sent a missionary to Lapland, but it was more than half a century before the Christianization of the country was placed on a firm basis. In 1612 a college for the training of missionaries was established at the University of Leyden and a few years later the Dutch introduced Christianity into Java. John Eliot, "the apostle of the Indians," came to America early in the 17th century under the auspices of the Corporation for the Spread of the Gospel in New England. Bishop Berkeley labored for the foundation of a missionary college in Bermuda; and the Society for the Propagation of the Gospel in Foreign Parts was founded in 1701. Its first missionary to India sailed in 1818. In the middle of the 17th century a party of men of Lubeck decided to engage in foreign missionary work. One of the party named Peter Heiling went to Abyssinia and did good work there. In 1664 the Austrian Baron von Welz renounced his title and went to Dutch Guiana as a missionary. Leibnitz, in 1700, urged the Berlin Academy to occupy itself with the propagation of true faith and Christian virtue among the remote and unconverted nations, especially China.

Early in the 18th century the first Protestant mission was sent to India. The first missionaries were two men who went to the Coromandel coast of India, where they learned the Tamil language and prepared a translation

the Bible. This mission was known s the Danish-Halle Mission and con-nued throughout the greater part of ie 18th century. In 1731 Count inzendorf, the patron of the United rethren called the Moravians, visited openhagen and there saw two Eski-os and a negro boy from the Dan-h West Indies. When he returned Herrnhut he told the story and two the Moravians resolved to go to t. Thomas and teach the slaves the ospel. This was the beginning of ie missionary enterprises of the oravians.

In 1786 Thomas Coke, the Methodist ho had been sent to Nova Scotia to reach Methodism among the settlers, as driven to the West Indies by a orm and began to realize the condi-ons of the heathen world. The story hich he brought back was the foun-ation of the Methodist missions which ave been so extensive throughout the orld.

William Carey was the first person urge effectually on British Protest-nts the duty of missions and the rst English Protestant to engage per-onally in the work. In 1793 he, with s family, set sail for India and land-d at Calcutta where he laid the foun-ations of the later missions in Asia. n 1818 the mission in Madagascar as established. The Church of En-and felt the impulse of missions and n 1799 started a society for missions Africa and the East which was aft-rward called the Church Missionary ociety for Africa and the East. Their rst expedition was to West Africa. hey went to New Zealand in 1814, ie Levant in 1815, India in 1816, and eylon in 1817. Work among the ndians of Northwest America in 826, work in equatorial Africa in 844, in China in 1845 and in Japan n 1869 was carried on by this re-arkable society. The Wesleyan Mis-onary Society was formed in 1814 nd entered the field in South Africa. issions in New South Wales were stablished in 1815, in Tasmania in 821, among the Maoris of New Zea-nd in 1822, in the Friendly Islands n 1826, in the Fiji Islands in 1834, n Victoria in 1838, in Queensland in 850, and in China in 1853.

The American Board of Missions as organized at Bradford, Mass., une 29, 1810. In January, 1812, the first missionaries sailed to India, but when they reached Calcutta they were ordered home by the British East India Company. Two of the missionaries to India changed their views in regard to baptism and this led to the formation of the American Baptist Missionary Union in May, 1814. The first actual mission established in foreign lands was established among the Marathos of Western India. The Ceylon mission was begun in 1816. Missions were opened among the Cherokee Indians in 1817 and among the Choctaws in 1819. The first mission in the Hawaiian Islands was established in 1819. The first missionary to China went out in 1829. In 1830 missions were established in Asia Minor and Persia and in 1831 in Athens. The Gabun mission in West Africa was sent out in 1834, and that to the Zulus in South Africa in 1835; that in Japan in 1869.

The first mission work of the Presbyterian Church was directed to the evangelization of India. The Western Missionary Society was organized about the close of the 18th century. In 1818 the United Foreign Missionary Society was formed but did not enter the foreign field. The Presbyterians worked through the American Board till 1870. In 1870 the Presbyterian Board of Missions was formed and took charge of the Persian, Syrian and Gabun missions. The missionary society of the Methodist Church was organized in 1819. In 1835 they established the Brazil Mission. The first Methodist missionaries to China sailed in 1847, to Bulgaria in 1852, to India in 1856, to Japan in 1872, to Mexico in 1873, to Korea in 1885 and to Malaysia in 1889.

A Domestic Foreign Missionary Society of the Episcopal Church was founded in 1835, occupying China in the same year, Japan in 1859, and Haiti in 1861.

Numerous other missions have been established till nearly the whole world has been visited by zealous and self-sacrificing pioneers.

Mississippi, a State in the South Central Division of the North American Union, admitted to the Union, Dec. 10, 1817; number of counties 75; area 46,340 square miles; pop. (1900) 1,551,270; capital, Jackson.

The State is divided into two portions by a low broad water-shed between the rivers flowing toward the Atlantic, and the streams emptying into the Mississippi. A lateral branch of this ridge terminates in the bluff of Vicksburg. E. of this ridge, the surface of the State consists of broad rolling prairies, while to the W. the land is broken into valleys and ridges. The State is very low, the highest altitude being but 800 feet. Mississippi is well watered. A chain of islands extends along the coast, separated from it by Mississippi sound. There is but one good harbor on the Gulf coast, Ship Harbor, the mouths of all the rivers being swampy. The principal ports on the Mississippi river are Vicksburg and Natchez. Mississippi is often called the Bayou State.

In the N. section and the uplands of the central portion the soil is very fertile, but the land in the Mississippi bottoms, though of exceeding fertility in places, contains much clayey and wet ground. The prairie lands are, as a rule, quite fertile. The most fertile land in the State is in the Yazoo delta, in the extreme W. part of the State, N. of Vicksburg. Mississippi has still a vast area covered by virgin forests. The principal trees are the oak, willow, chestnut, wateroak, walnut, butternut, dogwood, black gum, sweet gum, beech, cottonwood, sycamore, magnolia, locust, mulberry, hickory, pine, cypress, and live oak.

The prairie region in the N. W. of the State has always been noted as having the best farming land in the South. Cotton is the largest and most valuable crop. The principal farm crops are corn, wheat, oats, potatoes, and hay. In 1900 there were 4,772 manufactories, using a capital of $35,807,419, and yielding products of a combined value of $40,431,386, principally lumber.

In 1900 the children of school census age numbered 558,800; the enrollment in public schools 360,177; and the average daily attendance 201,593. There were 8,156 teachers; 6,687 public school buildings, and school property valued at $1,636,055. The receipts for the previous year amounted to $1,364,438, and the expenditures to $1,306,186. For higher education there were 91 public schools, 46 private secondary schools, 7 public, and 11 private normal schools, 9 college and universities for men, and 12 co leges for women.

The strongest denominations in th State are the Regular Baptist, col ored; Regular Baptist; Methodis Episcopal, South; African Methodist Methodist Episcopal; Roman Cath olic; Presbyterian, South; Cumberlan Presbyterian; Disciples of Christ, an Protestant Episcopal.

The total length of railroads with in the State on Jan. 1, 1901, was 2, 955 miles, of which 128 miles wer completed during the previous year.

The total indebtedness of the Stat on Sept. 1, 1901, including $2,208,30 of debt for school funds, on which in terest alone is paid, was $2,811,300 and this is nearly all held by Stat funds.

The governor is elected for a tern of four years, and receives a salary o $3,500 per annum. Legislative session are held quadrennially, beginning o Tuesday after the first Monday o January, and are unlimited as t length of session. There are 7 repre sentatives in Congress.

Mississippi was originally part o the colony of Louisiana, being settle by the French in 1716. In 1728 th settlers were nearly exterminated b the Indians, and in 1763 the territor was ceded to Great Britain. At th end of the Revolution it became a ter ritory of the United States, and wa admitted to the Union as a Federa State Dec. 10, 1817. In 1861 it passe an ordinance of secession, took prominent part in the Civil War, an finally, in January, 1869, was read mitted to representation in Congress after ratifying the 15th amendment Since the war the State has mad much progress.

Mississippi, University of, a co educational, non-sectarian institutio in University, Miss.; founded in 1848

Mississippi College, an educa tional institution in Clinton, Miss. founded in 1850 under the auspices o the Baptist Church.

Mississippi River (from an In dian word signifying Great Water, o Father of Waters), a river of the United States, forming with its tribu taries one of the great water systems of the world. From the headquarters of the Missouri, which is now recog

zed as the parent stream (the upper ississippi being really a tributary) the mouth of the Mississippi is a stance of 4,200 miles, the longest ver course in the world. It drains area of 1,246,000 square miles, oc- pied by the States lying between the ppalachian mountains on the E., the ocky Mountains on the W., the reat Lakes on the N., and the Gulf Mexico on the S. There are sev- al cataracts, the best known being e Falls of St. Anthony at Minneap- is, Minn., marking the headwaters of vigation. The falls are 16 feet in ight. Rapids occur for several miles rther down. At the junction of the es Moines river, the Mississippi is mile broad, with clear waters of a uish tint. There are numerous is- nds and the current averages 2 miles hour. The principal affluents above e entrance of the Missouri are the . Peter's, St. Croix, Chippewa, Wis- nsin, Rock, Des Moines and Illinois. elow the junction of the Missouri e character of the river, which is re about one and a half miles broad, d of a muddy nature, is due to its butary. The united waters have ly, from their confluence to the outh of the Ohio, a width of about ree-quarters of a mile. The junc- on of the Ohio seems also to pro- ce no increase of surface; and the ver, in its natural state, is still nar- wer at New Orleans, which is only 0 miles from its mouth. Its depth, vertheless, is so much increased that, the shallowest places, there are ually six feet of water when the ver is lowest. The rapidity of the rrent is more than doubled. Ac- idental circumstances often shift the rrent on to the islands or bends of e river, and every season makes great anges in the channel. Thus, by ntinually shifting its course, the ississippi sweeps away, during a eat portion of the year, considerable icts of alluvium, which were grad- lly accumulated by the overflow of rmer years. About 190 miles below e confluence of the Missouri, the ississippi receives the Ohio, flowing, th its light-green stream, from the , bringing with it also the waters of tributaries. At this point, not only es the stream turn S. W., but the iffs retire and a plain extends on th sides of the river, ranging from 30 to 50 miles in breadth, still expanding as it approaches the mouth, where it is probably three or four times that width. About 380 miles below the influx of the Ohio, is the junction of the Arkansas and White rivers, which enter the main stream close to each other on the W. bank. Thence to the confluence of the Red river is a distance, S. by W., of 360 miles, measured along the stream; and below this latter point the river trends S. E., and enters the Gulf of Mexico, after a course of 335 miles from the Red river.

The lower part of the Mississippi is so much flooded after the rainy season that there is often a space of inundated woodland from 30 to 100 miles in width; large swamps and bayous are found on both sides of the river. The Mississippi is subject to inundations, often destructive in their effects. To secure the land from these inundations, immense embankments, or levees, have been formed along the Mississippi, and the canals or bayous through which its waters overflow. Below the Arkansas river dilatation the swamps receive a vast body of water, by which means the current becomes less rapid. As soon as the river enters the delta, its rapidity is further slackened through the diffusion of its waters into various subordinate channels. From this point to New Orleans no variation is perceptible. The white waters of the Mississippi do not readily mix with the sea, and may be distinguished from 9 to 14 miles from Balize. De Soto, 1541, was the first European who explored the Mississippi. He died upon it, and was buried in it. Marquette and Joliet in 1673, and La Salle in 1682, made explorations, the latter descending to its mouth.

Mississippi River Improvements. As early as 1866 the attention of the United States government was directed to the improvement of the Mississippi. At that date James B. Eads laid plans before Congress looking to the removal of snag obstructions, but no money was appropriated. By 1879 Mr. Eads had succeeded in deepening the mouth of the Mississippi to a considerable degree. In the same year Congress authorized the appointment of a Mississippi River

Commission, but it was not until 1892 that expenditure upon the levees became a settled policy.

Mississippi Scheme, a bubble scheme projected by John Law in Paris in 1717. Part of the scheme was for the colonization and development of the Mississippi valley, but combined with this there was a banking scheme and a scheme for the management of the National debt, the whole thing supported by the French government. Such were the hopes raised by this undertaking that the shares originally issued at 500 livres were sold at 10, 20, 30, and even 40 times their value. People came from all parts of France, and even from foreign countries, in order to invest in the company. The State took advantage of the popular frenzy to issue increased quantities of paper money, which was readily accepted by the public creditors and invested in shares of Law's company. This went on till the value of the paper money became depreciated in value and the shares fell in price. When Law, the originator of the bankrupt company, fled from France in 1720 the State acknowledged itself debtor to the shareholders to the extent of $340,000,000.

Missouri, a State in the South Central Division of the North American Union; admitted to the Union, Aug. 10, 1821; number of counties, 115; area, 68,735 square miles; pop. (1900) 3,108,665; capital, Jefferson City.

Though the surface of the State presents no considerable elevations, it is greatly diversified. In the S. W. part are the Ozark Mountains, a series of isolated knobs, and cliffs of sandstone, some reaching an altitude of 1,500 feet. The Mississippi river is bordered by highlands in the shape of limestone bluffs, in some cases reaching a height of 350 feet. W. of these highlands the State is high and broken, becoming more and more level till the Osage river is reached. The principal rivers are the Mississippi, having a course of 470 miles along the E. boundary, the Missouri, which forms 200 miles of the W. boundary, and turning E. crosses the State, and flows 250 miles to the Mississippi. The Osage, St. Francis, Black, White, Gasconade, Current, Grand, and Charlton are all navigable at high water.

Missouri has numerous valuabl mineral resources. Gold is found i the drift sands of the N., and silve lead, and iron ores are scattered ove the entire State. The coal is var ous varieties from a common bitum nous to a fine cannel, and is much use for smelting purposes, and for firin boilers. The coal measures cover ove 26,000 square miles. Missouri rank second as a lead mining State. Th building stones include granite, sand stone, and limestone. Other impor tant mineral products are sulphuret c nickel, manganese, wolfram, gypsum asbestos, bitumen, fire clay, kaolin, hy draulic lime, saltpeter, and mica There are many sulphurous, saline and other mineral springs.

The soil is generally fertile, except ing on the hills, where it is mixed wit such a proportion of iron oxides as t make it unproductive. The alluvial de posits of the Mississippi and Missour are exceedingly fertile, and th swamps, when drained, yield enormou crops. The prairies produce tobacc and wheat of the best quality. Onl about one-third of the State is cul tivated, the remainder being to a larg extent densely timbered. The prin cipal forest trees are the elm, ash oak, sugar maple, hackberry, dogwood sassafras, sweet gum, black gum, ca lapa, tupelo, pawpaw, and pecan. Yel low pine grows abundantly around th head waters of the Black, White, an Current rivers, and extensive pine for ests extend along the Arkansas border

Missouri ranks third among the United States in her agricultura wealth. The principal farm crops ar corn, wheat, oats, potatoes, hay, rye and buckwheat. Other important crops are peas, clover, flax, hemp, gar den fruits, and barley. Agricultura and creamery products are all devel oped to a high standard. Much of th territory N. of the Missouri river i covered with blue grass and is finel adapted to stock-raising.

According to the Federal census o 1900 there were 18,754 manufactur ing establishments reported, employ ing $249,888,581 capital and $134, 975 persons; paying $60,719,428 fo wages and $214,988,018 for materials and having a combined output valued at $385,492,781.

In 1900 the children of school age numbered 966,400; the enrollment in

public schools 719,817; and the average daily attendance 460,012. There were 16,201 teachers, 10,478 public school buildings, and school property valued at $18,866,156. For higher education there were 211 public high schools, 74 private secondary schools, 4 public, and 5 private normal schools, 27 colleges and universities for men and for both sexes, and 11 colleges for women.

The strongest denominations in the State are the Roman Catholic; Regular Baptist, South; Disciples of Christ, Methodist Episcopal, South; Methodist Episcopal; German Evangelical Synod; Cumberland Presbyterian; Lutheran, Synod, Conference; Regular Baptist, Colored; Presbyterian, North; African Methodist; and Presbyterian, South.

The total length of railroads within the State on Jan. 1, 1901, was 6,974 miles, of which 65 miles were completed during the previous year.

On Jan. 1, 1901, the total bonded debt was $1,887,000; school and seminary certificates, $4,393,839; total debt, $6,280,839. The assessed property valuation amounted to $1,004,469,071, and the tax rate was $1.90 per $1,000. The valuation of railroad and telegraph property, not included above, amounted to $112,673,986; and machinery, merchandise, etc. $63,144,571.

The governor is elected for a term of four years, and receives a salary of $5,000 per annum. Legislative sessions are held biennially beginning on Wednesday after the first Monday of January, and are unlimited as to length of session. The Legislature has 34 members in the Senate and 140 in the House, each of whom receives $5 per day and mileage. There are 15 representatives in Congress.

Missouri was first visited by the whites, under De Soto in 1541, and under Marquette in 1673. In the early part of the 18th century a brisk trade in furs between the French and the Indians led to French settlement, St. Louis, St. Genevieve, and other towns were founded about the middle of the century, but in 1762, after the conquest of New France by the English, this country was transferred to Spain. It was restored to France in 1800, and purchased by the United States in 1803, as part of the Louisiana Purchase. In 1812, a portion of Louisiana was set aside as the Territory of Missouri, and in 1821 it was admitted into the Union as a State. The question of its admission gave rise to a long and bitter political controversy in Congress, the South wishing to make it a slave State and the North resisting. The dispute was at length settled by a compromise to the effect that slavery should be permitted in Missouri, but excluded from all other parts of the Louisiana Purchase N. of lat. 36° 30′. In 1836 Missouri was reduced from its Territorial to its present State limits. On the outbreak of the Civil War the people of Missouri were divided in sentiment, and both sides took up arms. Many conflicts took place in the State, but the activity of the Union party saved it from secession. After the war the State entered upon a career of unprecedented prosperity.

Missouri, University of, a co-educational and non-sectarian institution in Columbia, Mo.; founded in 1840.

Missouri, a river of the United States; formed in the Rocky Mountains, in Montana, winds circuitously along the base of the mountains, then E. till it reaches the W. boundary of North Dakota and receives the Yellowstone. Here it begins to flow S. E. through North and South Dakota, then forms the E. boundary of Nebraska, separates for a short distance Kansas from Missouri, then strikes E. across the latter State, and joins the Mississippi after a course of 2,908 miles. It is navigable 2,500 miles from the Mississippi, giving a water-route for commerce into the remote Northwestern States.

Missouri Compromise, a term given to a compromise under an act of Congress passed in February, 1821, declaring that all territory W. of Missouri and N. of lat. 36° 30′ (the S. boundary of Missouri) should forever be free from slavery.

Mistassini Lake, a sheet of water in Canada; length, about 125 miles; average width, 20 miles; it forms the headwaters of the Rupert river. Up to 1885 it had never been thoroughly explored but in that year an expedition visited its shores, and proved

that it somewhat exceeded in extent the area previously assigned to it.

Mistletoe, a plant parasitic on the apple and other fruit trees, on the thorn, the oak, the poplar, the lime, the ash, etc. It sometimes kills the branch or even the tree on which it is a parasite. Found in the United States, also in Europe, and the N. of Asia. It was deemed sacred by the Druids, and still finds a large market in the United States and England when preparation is being made for Christmas festivities and sports. Bird

MISTLETOE.

lime is made from the berries. Kissing under the mistletoe, Scandinavian mythology: The wicked spirit, Loki, hated Balder, the favorite of the gods, and, making an arrow of mistletoe, gave it to Hader, the god of darkness and himself blind, to test. He shot the arrow and killed Balder, who was restored to life, and the mistletoe given to the goddess of love to keep, every one passing under it receiving a kiss as a proof that it was an emblem of love, and not of death.

Mistral, Frederic, a Provencal poet; born a peasant's son, near Maillaune, Bouches-du-Rhone, France, Sept. 8, 1830. He studied law, but went home to work and write poetry. In 1859 he published the epic "Mireio." This charming representation of life in Southern France made Mistral's name famous.

Mistress of the World, a name anciently given to Rome.

Mitau, the capital of the Russian province of Courland, on the right bank of the Aa, 27 miles S. W. of Riga; has a castle, the seat of the governor of the province, six churches, a museum, etc., with some very important manufactures, and a trade in grain and timber; founded in 1271 by the grand-master of the Teutonic Knights, and annexed to Russia in 1795. From 1798 to 1807 it offered an asylum to Louis XVIII. Pop. 350,011.

Mitchel, Frederick Augustus, an American author; born in Cincinnati, O., Dec. 4, 1839; was graduated at Brown University in 1860; served in the Union army in the Civil War and fiction editor of the American Press Association.

Mitchel, John, an Irish patriot; born the son of a Presbyterian minister, in Dungiven, County Derry, Ireland, Nov. 3, 1815. He studied at Trinity College, Dublin, and practised as an attorney. Soon after the formation of the Young Ireland party, and the starting of the "Nation," in 1842, Mitchel began to contribute, and after 1845 he became assistant editor. His language was too violent for the paper, and three years later he started the "United Irishman," for his articles in which he was tried on a charge of "treason-felony" and sentenced to 14 years' transportation. He made his escape to the United States in the summer of 1853. In 1874 he returned unmolested to Ireland, and was elected to Parliament for Tipperary, but declared ineligible. Again elected, he died in Cork, Ireland, March 20, 1875.

Mitchel, Ormsby Macknight, an American astronomer and soldier; born in Morganfield co., Ky., July 28, 1809. He was graduated at the United States Naval Academy in 1829; became Professor of Mathematics and Astronomy at Cincinnati

College, O., in 1834, and was largely instrumental in building and equipping the observatory there; and was director of the Dudley Observatory, Albany, N. Y., 1859. He was made Brigadier-General in the Federal service; won the battle of Huntsville, Ala., April, 1862; was promoted to Major-General and Commander of the Department of the South. He died in Beaufort, S. C., of yellow fever, Oct. 30, 1862.

Mitchell, Donald Grant, pseudonym Ik Marvel, an American author; born in Norwich, Conn., in April, 1822; was graduated at Yale in 1841; traveled in Europe; studied law in New York; in 1850 he published "The Reveries of a Bachelor," and in 1851 his "Dream Life." In 1853 he became United States consul at Venice, and has since written many popular books.

Mitchell, Elisha, an American chemist; born in Washington, Litchfield co., Conn., Aug. 19, 1793. He was graduated at Yale in 1813; in 1818 became Professor of Mathematics in the University of North Carolina; and in 1825 of chemistry; in 1821 was ordained a Presbyterian minister; and was for some time State surveyor. He first ascertained that the mountains of North Carolina are the highest E. of the Rocky mountains. To settle some disputed points in regard to these heights, he reascended them in 1857, lost his way at night, fell down a precipice, and was killed June 27.

Mitchell, John, an American labor executive; born in Braidwood, Ill., Feb. 4, 1869; received a common school education; later studied law; worked in coal mines in 1882; joined the Knights of Labor in 1885, and went West, where he worked in coal mines till 1890; became secretary-treasurer of the sub-district of the United Mine Workers of America in 1895; President of the United Mine Workers of America in 1898; and was Vice-President of the American Federation of Labor in 1898 and 1900. President Mitchell had personal charge of the great strike in the anthracite coal mines in the summer and autumn of 1902.

Mitchell, John Ames, an American journalist; born in New York city, Jan. 17, 1845; studied at Lawrence Scientific School; studied architecture in Boston, Mass., and Paris; practised as an architect in Boston; afterward engaged in artistic and decorative work; was then in New York as artist, illustrator, and writer; founded Jan. 3, 1883, "Life," of which he was editor.

Mitchell, Maria, an American astronomer, daughter of William Mitchell; born in Nantucket, Mass., Aug. 1, 1818. She inherited her father's love of astronomy, which she made her life-work. She discovered a considerable number of nebulæ and a comet (in 1847). In 1858 she visited the principal observatories of Great Britain and the Continent. In 1865 she was appointed Professor of Astronomy and Director of the Observatory of Vassar College, a position which she held till 1888. She died in Lynn, Mass., June 28, 1889.

Mitchell, Silas Weir, a distinguished American physician, poet, and novelist; born in Philadelphia, Pa., Feb. 15, 1829; studied at the University of Pennsylvania; was graduated at Jefferson Medical College (1850); practised in Philadelphia and became prominent as a physiologist, especially as a neurologist and toxicologist.

Mitchell, Walter, an American clergyman, editor and author; born in Nantucket, Mass., Jan. 22, 1826; was graduated at Harvard University; admitted to the bar; became priest in the P. E. Church; was rector of a number of parishes; chaplain of Kenyon College, and connected with the "Churchman," New York.

Mitchell, William, an American astronomer; born in Nantucket, Mass., Dec. 20, 1791. As a young man he struggled for several years; then became bank cashier in Nantucket; made systematic astronomical determinations in connection with the United States Coast Survey; was made A. M. by Brown University in 1848, by Harvard in 1860, being overseer of the latter university and chairman of the committee to visit the observatory in Cambridge. Astronomy and mathematics furnished pastimes of his busy life. He died in Poughkeepsie, N. Y., April 19, 1868.

Miter, or **Mitre,** in ordinary language, a form of head-dress worn by

the inhabitants of Asia Minor; a headband. In religion, the head-dress of a bishop. The episcopal miter was doubtless suggested by that of the Jewish high priest.

MITER.

Mithras, the sun-god of the Persians, to which they paid adoration as the purest emblem of the divine essence. The worship of Mithras was introduced into Rome, seemingly not long after the fall of the republic, and soon spread over all parts of the empire.

Mithridates, surnamed Eupator, and The Great, King of Pontus, and the 16th of the name; born about 131 B. C. He succeeded his father, 120 B. C., and his first acts were the murder of his mother and his brother. He then began his career of conquest by making himself master of Colchis and the Tauric Chersonese. The kingdoms of Bosporus, Cappadocia and Bithynia were successively added to his dominions. Friend and ally, as he professed to be, of the Romans, he obeyed the decree of the Senate, to restore the two last-named countries to their lawful sovereigns. But in 88 he again expelled those kings, and did not shrink from a war with the Romans; took Phrygia and Galatia, almost all Asia Minor, and occupied Thrace and Athens. All hope of reconciliation with Rome was taken away by the massacre, which he is said to have ordered, of all the Romans found in Asia. Eighty thousand are said to have been slain. He was defeated, first by Sulla, and afterward by Pompey. His spirit was still unbroken, and he formed the bold plan of invading Italy, but eventually his son Pharnaces was proclaimed king by the soldiers. At his own request he was killed by a faithful Gaul, 63 B. C.

Mitrailleuse, in ordnance, a weapon designed to fire a large number of cartridges in a short time; weapons of higher caliber, designed to discharge heavier projectiles are usually called "machine guns."

Mittimus, in law, a precept or command in writing given by a justice of the peace, or other officer, directed to the keeper of a prison, requiring him to receive and hold an offender charged with crime till he be delivered by due course of law; a warrant of commitment to prison.

Mitylene, or **Mytilene,** an island of the Grecian Archipelago, belonging to Turkey, 7 miles from the coast of Asia Minor; area, 276 square miles; pop. about 40,000. In consequence of strained relations between France and Turkey, a French fleet was sent to Mitylene, Nov. 5, 1901; and remained there till the Porte agreed in full to the demands made.

Mixed Marriages, marriages between persons of different religions. In the United States the term generally defines a marriage between a Roman Catholic and a Protestant.

Mizzen, or **Mizen,** the aftermost of the fore-and-aft sails of a ship. Also the aftermost mast in a three-masted ship, or in those two-masted ships in which the forward mast is the larger.

Mnemonics, the art of assisting the memory; a mode of recalling to the mind any fact or number, or a series of disconnected terms or figures.

Moabites, a pastoral people who inhabited the bleak and mountainous country E. of the lower part of the Jordan and of the Dead Sea, divided into two portions by the deep bed of the Arnon. Their capitals were Ar-Moab and Kir-Moab, both S. of the Arnon, but their kings often resided in their native places, as Mesha in Dibon. Their sovereign divinity was Chemosh, and patriotism was an essential part of their religion. They were compelled to become tributary to David, but about 850 B. C. shook off their allegiance to the Jewish kings, and afterward took part with the Chaldeans against

the Jews. Their name no longer exists, and the remnants of the people have long been included among the Arabs.

Moabite Stone, a stone bearing an inscription of 34 lines in Hebrew-Phœnician letters, discovered in 1868 among the ruins of Dhiban. The stone was of black basalt, rounded at the top and bottom, 2 feet broad, 3 feet 10 inches high, and 14½ inches in thickness, but was broken up by the Arabs, whose cupidity had been aroused by the eagerness to acquire it shown by M. Clermont-Ganneau. The fragments were afterward collected and fitted into their proper places, and the monument now stands in the Louvre at Paris. The inscription was discovered to be a record of Mesha, King of Moab, mentioned in II Kings, iii., referring to his successful revolt against the King of Israel.

Moat, in fortification, a deep ditch or trench round a fort, etc., generally filled with water.

Mobile Bay, Battle of, one of the most important and decisive battles of the Civil War, fought at Mobile Bay, Aug. 5, 1864, between the Union fleet, commanded by Admiral Farragut, and the Confederate ram "Tennessee" and three iron-clads commanded by Admiral Buchanan. The conflict raged all day and was renewed after dark, and fighting was continued till 10 A. M. the next day, when being badly crippled, the "Tennessee" struck her colors. It was during this battle that Admiral Farragut was lashed to the mast of his ship and from there directed the movements of his vessel.

Mobilization, in military language the calling of troops into active service; the placing of an army on a war footing or readiness for active service.

Moccasin, Moccason, Mocassin, or Moccassin, a deerskin sandal, the sole and upper of which are formed of one piece of leather. It is the ordinary foot-covering worn by the North American Indians.

Moccasin Snake, sometimes called the water viper, from its frequenting marshy places. It is a fish-eating snake, found in North Carolina, the country to the S. and across to the Rocky Mountains.

Mocking Bird, a bird of the thrush family. The plumage is not at all brilliant, but what this bird lacks in beauty of plumage is fully compensated for by its amazing facility of voice and song. It inhabits North America chiefly, being a constant resident of the Southern States, and but rare and migratory in the N. parts of the continent. It is also found in the West Indian Islands and in Brazil. The ordinary song notes of the mocking birds are clear, bold, and varied. They sing during the night, like the nightingales, and appear to begin their song with the rising moon. The imitative notes of these birds are, however, still more varied than their natural tones. They mimic with success the songs of their feathered neighbors and with such exactitude as to deceive the ear of the most experienced sportsman. When they are kept in confinement all the sounds of the household are imitated. The ferruginous mocking bird is another familiar species, familiarly known in North America as the brown thrush or thrasher. It does not appear to equal its more celebrated neighbor in the powers of its song.

Modena (ancient Mutina), capital of the former duchy of Modena; on a broad plain in Northern Italy, 23 miles N. W. of Bologna. Originally an Etruscan town, Modena was conquered successively by the Gauls and the Romans, and destroyed by Constantine the Great, the Goths, and the Longobards. Charlemagne made it the capital of a line of counts. The family of Este became its masters in 1288; and in 1452 the reigning marquis was created duke by the Emperor Frederick III. The duchy was incorporated in the kingdom of Italy. Area of province, 987 square miles; pop. (1900) est. 292,684.

Moderator. In Presbyterianism: One who presides over a called or regular assembly, large or small. Also the presiding officer of a New England town meeting.

Modjeska, Helena, a Polish actress; born in Cracow, Poland, Oct. 12, 1844. She began to act in a traveling company in 1861. Four years later she made a great name at Cracow; she settled with her second husband, near Los Angeles, Cal., to try farming; but the enterprise not succeeding, she returned to the stage, and

won a complete triumph at San Francisco in 1877, though she acted in English, of which language she had known nothing seven months before. After that time she was acknowledged one of the best of modern emotional actresses. She lives in California.

Modocs, an Indian tribe of Northern California, which in 1872, after firing on the United States forces, retreated to the neighboring lavabeds, and there defended themselves desperately till June, 1873, killing or wounding 132 of the troops. Their chief, Captain Jack, and three others were hanged in October; about 100 who had not followed him were permitted to remain in California, the rest (145) were transferred to Indian Territory.

Moeso-Goths, the name given to the Goths, who in the 3d century and in the 5th settled in Lower Mœsia. It was for them that Ulfilas translated the Scriptures.

Moffat, James Clement, an American writer; born in Glencree, Galloway, Scotland, May 30, 1811. He contributed numerous articles to periodicals, and published "Life of Dr. Thomas Chalmers." He died in Princeton, N. J., June 7, 1890.

Moffat, Robert, a Scotch missionary; born in Ormiston, East Lothian, Scotland, Dec. 21, 1795. He began missionary work in South Africa in 1813, and in 1818 made a long exploratory tour in the Damara country. In 1819 he married Mary Smith at Cape Town, who henceforth was the constant companion of his labors. He published an account of his travels, and a translation of the New Testament and Psalms in the Bechuana language. He finally returned to England in 1870, and his wife died the following year. One of his daughters became the wife of Dr. Livingstone. He died in Leigh, Aug. 8, 1883.

Mogul. The term "great Mogul" is the popular designation of the emperor of Delphi in India. The first Great Mogul was Baber, a descendant of Timur the Tartar or Tamerlane. He founded the empire in 1526. The dynasty lost its power and territories to the English in 1765. The last emperor, having joined the rebels in 1857, died a prisoner in Rangoon (1862).

Mohair, the hair of the Angora goat. Also a fabric made from the fine, white, silky hair of the Angora goat and allied species; sometimes called camlet. Also a wool and cotton fabric made in imitation of the above, in mixed colors or plain.

Mohammed, or **Mahomet,** the Arabian prophet, and the founder of Islam; born in Mecca, Arabia, A. D. 570 or 571. He was the only son of Abdallah and Amina; his father being of the family of Hashem, princes of Mecca, and the guardians of the Caaba. Left an orphan in infancy, he was brought up by his uncle, Abu Taleb, who trained him to commerce, and took him to the great fairs of Arabia and Syria. When 25 years of age Mohammed married Khadija, a rich and noble widow of Mecca, and the following 15 years of his life were passed in domestic quietness. He began, at 40 years of age, to announce himself as an apostle, and to proclaim the doctrine of Islam (salvation), that "There is no God but Allah, and Mohammed is his Prophet." His wife Khadija was one of the first to believe him, and among other members of his family who readily acknowledged his mission was his cousin, Ali, son of Abu Taleb. After three years, he made a more public announcement of his doctrine, especially insisting on the unity of God, and denouncing all kinds of idolatry; but his followers were very few for years, and the opposition of the elders and people of Mecca growing more and more bitter and violent, some of his disciples retired into Ethiopia. In A. D. 621 Mohammed lost his faithful and beloved Khadija, who during the 24 years of their marriage had retained his love. The death of Abu Taleb took place about the same time; and soon after, the Koreishites, headed by Abu Sophian, resolved to put the prophet to death.

He fled from Mecca, hid himself in a cave for three days, and then, with his only companion, Abubekr, withdrew to Medina. From this flight of Mohammed commences the era of the "Hegira" (July 16, 622). He made a public entry into Yatreb amid the loudest welcomes of the citizens, and at once assumed the offices of king and priest. He also there married his second wife, Ayesha, daughter of Abu-

bekr, who long survived him. He had many other wives, all widows, except Ayesha. Persuasion, long tried with little success, at length gave place to force and war, and in the battle of Beder — first of the long series of battles by which the faith of Islam was established — he defeated Abu Sophian and the Koreish (A. D. 623). He was defeated by them in A. D. 625; they unsuccessfully besieged Medina, and a truce for 10 years was agreed on. In 630 the conquering prophet marched to Mecca, received the keys of the city, and was acknowledged as prince and prophet. He showed no malice against his former enemies, performing the pilgrimage with the customary observances, purified the Caaba, destroyed its 360 idols, and decreed that no infidel should enter the holy city. The whole of Arabia was soon after conquered, and ambassadors with arrogant claims were sent to the Emperor Heraclius, the King of Persia, and the King of Abyssinia. War with the Roman empire was begun; an expedition for the conquest of Syria was prepared; when Mohammed, believed to be immortal by some of his disciples, fell into a fever, and after 14 days of suffering, died in Medina, Arabia, June 7, 632. He was buried in a simple tomb.

Mohammed IV., emperor of the Turks; born in 1642, succeeded his father, Ibrahim in 1648. In 1672 he marched against Poland; but made peace with that country on condition of an annual tribute being paid to him. John Sobieski, irritated at this ignominous treaty, raised an army, and defeated the Turks near Choczim, on which a new treaty, favorable to Poland, was signed in 1676. In 1683 the Turks laid siege to Vienna, on which Sobieski marched to its relief, and routed the besiegers. The Janizaries, attributing their misfortunes to the indolence of the king, deposed him in 1687, and sent him to prison, where he died in 1691.

Mohammed, Ahmed, a fanatical leader of the Mahdists, of whom mention is made under Mahdi. He made his appearance in the Sudan in 1878, dressed as a dervish, and traveled about preaching to the Arabs and blacks. His followers rapidly increased in numbers and soon he announced himself as the Mahdi, or spokesman of God on earth. The Egyptian government requested him to come for an interview, which he refused to do and an armed force was sent to bring him. This company of soldiers was ambushed and massacred. Not long after this he threw off all pretense and set out on the series of raids which made him ruler of the Sudan. In this crisis England sent General Gordon to subdue the country by peaceable means. He reached Khartum in 1884 and the city was soon after besieged by the Mahdi's army. A rescuing expedition was sent from England, but failed to reach Khartum in time to save the garrison and citizens. Through carelessness or treachery an entrance was effected and the Mahdi's army of Arabs and blacks rushed in, slaughtering every one who came in their way. General Gordon was killed on the steps of his own house, his head cut off and stuck on a pole in the market place as a warning to all unbelievers that no one could contest with the Mahdi. This was on Jan. 26, 1885, and in the same year the blood-stained career of Mohammed Ahmed was brought to an end by his death.

Mohammedan Architecture, the style of architecture adopted by Mohammedan nations. It was gradually developed out of the forms which were found ready to hand in the various countries over which they spread.

Mohammedanism, Mahometanism, or **Muhammadanism,** the religion founded by Mohammed. The Mohammedans of the world have been estimated at 250,000,000, of whom 50,000,000 are in India, 40,000,000 directly under British rule, and 10,000,000 in allied or tributary states. The Koran is their sacred book and their code of law. Their faith is called Islam (surrender of the will to God). Five duties are incumbent on the faithful Mohammedan: A confession of faith that there is but one God, and that Mohammed is his prophet, prayer, fasting, almsgiving, and a pilgrimage to Mecca. Friday is their Sabbath.

Mohave Desert, a basin, with little water or vegetation, chiefly S. E. of California, and extending into Arizona. The Mohave river rises in the San Bernardo range, and finally disappears in the Mohave Sink.

Mohawk, a river in New York, the principal tributary of the Hudson; length about 135 miles. It affords abundant water power.

Mohawks, a tribe of North American Indians, belonging to the confederacy of the Five Nations. They originally inhabited the valley of the Mohawk river. With the rest of the confederacy they adhered to the British interests during the Revolutionary War, and left the country on its termination for Canada, where lands were assigned them on the Grand river. Their language has been committed to writing.

Mohegan, or Monhegan Indians, a tribe of North American Indians who formerly lived on the Thames river in Connecticut. They were at one time united with the Pequots and after the death of Sassacus, Pequot leader, the remainder of the tribe came under the Mohegan chief. After the death of King Philip in 1676, the Mohegan tribe was the only important one in that region. Save for a few descendants of mixed blood they have long disappeared.

Mohurrum, the first month of the Mohammedan year. Also one of the greatest of the Mohammedan festivals, held in commemoration of the so-called martyrdom of Hassun and Hosein, sons of Ali, and nephews of Mohammed, which occurred in the 46th year of the Hegira.

Moidore, a Portuguese gold coin, worth 4,000 reis, or about $5.31.

Molay, Jacques de, the last grandmaster of the Knights Templars; born in Burgundy. He was admitted into the order about 1265, and having signalized himself by his valor in Palestine, was unanimously elected grand master on the death of William de Beaujeu. Phillipe le Bel, King of France, and Pope Clement V., formed a plan for their extermination. They were accused of heresy, impiety, and various crimes. In October, 1307, all the Templars throughout France were arrested at the same hour, and they were tried and convicted. Fifty-seven were committed to the flames in 1311; and after an imprisonment of seven years, De Molay shared their fate at Paris, March 18, 1314, declaring the innocence of his order to the last.

Mold, or Mould, any thread-like fungal, found on bread, ink, gum, etc. Vegetable soil consisting of the surface stratum, whether of clay, gravel, sand, or rock, disintegrated by atmospheric influence and modified by the plants, first of lower, and then of higher organization, and by the animals which reside upon or pass over its surface. Of all these animals the most potent in action is the earthworm.

Mole, a jetty or structure erected before a port so as to partially inclose a harbor or anchorage, and protect it from the violence of the waves in the offing. Also a pier of masonry.

Mole, a name loosely applied to any underground burrowing mammal. The common mole is about six inches in length. The normal food of the mole is the earthworm. It is voracious, and no kind of flesh seems to come amiss to it, but it will not touch vegetables. It takes readily to the water.

Molech, or Moloch, a heathen deity chiefly mentioned in the Old Testament as the national god of the Ammonites, to whom children were sacrificed by fire.

Mole Cricket, a genus of insects, common in the United States. In length the mole cricket averages about two inches. It is of a reddish brown color. The anterior pair of limbs are converted into powerful burrowing organs, somewhat similar to the hands of the mole, to which animal, in the general conformation of its body, this cricket bears a marked resemblance. These insects burrow in the ground and construct their nests in the form of subterranean galleries.

Molecule, the smallest quantity of any elementary substance or compound which is capable of existing in a separate form. It differs from atom, which is not perceived, but conceived, inasmuch as it is always a portion of some aggregate of atoms.

Mole Rat, a mouse-like rodent, found in the S. E. of Europe, ranging E. into Asia. The eyes are rudimentary and covered with skin, so that the animal is quite blind; the tail is also rudimentary. The toes are furnished with powerful claws, which the animals use in excavating their bur-

rows. Color, yellowish-brown, tinged with ashy-gray, the lower surface with white streaks and spots.

Molesworth, Sir William, an English politician, popularly known as the "liberator and regenerator of Britain's colonial empire"; born in London, England, May 23, 1810; he succeeded as 8th baronet in 1823. He will chiefly be remembered as having drawn attention to the abuses connected with the transportation of criminals, and as having pointed out the maladministration of affairs in the colonial office, investigated the relations between the imperial government and the colonial dependencies, and expounded the true principles of colonial self-government. He died in London, Oct. 22, 1855.

Moliere, the professional name of **Jean Baptiste Poquelin,** a French dramatist; born in Paris, France, Jan. 15, 1622. He is called by Voltaire the Father of French Comedy, and alone among French comic writers is classical. His works, it is said, have been more frequently republished than those of any other French author. In 1673, he took part in the presentation of his last comedy, being at the time seriously out of health; the effort was too much for him, and he died the same night, Feb. 27.

Molinos, Miguel, founder of the Quietists; born near Saragossa, Spain, Dec. 21, 1640. He was a priest at Rome. His principal work, "A Spiritual Guide" (1675), maintained that godliness consists in uninterrupted communion with God through contemplation — the doctrine called "Quietism." This being thought to imperil the doctrine of good actions, the book was condemned (1687); and in spite of recanting, he was imprisoned for life, dying in confinement, in Rome, Dec. 29, 1696, or 1697.

Mollah, or **Mullah,** an honorary title given to any Mohammedan who has acquired consideration by the purity of his life, or who holds some post relating to worship or the application of the principles of the Koran.

Mollusca, in zoölogy, a miscellaneous assemblage of genera described as naked, not included in a shell, furnished with limbs. Cuvier made the Mollusca one of the four great "divisions" or sub-kingdoms of the Animal Kingdom, of equal rank with the Vertebrata, the Articulata, and the Radiata. Example, the cuttle fish, the snail, the oyster, etc. Many thousand recent Mollusca are known, distributed throughout every climate and nearly every part of the world.

The shells of the Mollusca being all but indestructible, and easy of identification, afford us a reliable means for ascertaining the relative age of strata. Next to the Protozoa, the oldest fossils known are Mollusca. They have abounded from Cambrian times till now. The longevity of molluscous species (not individuals) is much greater than that of the Mamamalia.

Molly Maguires, a secret society formed in Ireland, in 1843, to intimidate bailiffs or process-servers distraining for rent, or others impounding the cattle of those who were unable or unwilling to pay rent. The members of the association were young men dressed up in female attire, and having their faces blackened. Also, a similar society formed in 1877 in the mining districts of Pennsylvania. The members sought to effect their purpose by intimidation, carried in some cases to murder. Several were arrested, tried and executed, chiefly through the evidence of a detective, who joined their order, and gained a knowledge of its secrets and its crimes.

Moloch Lizard, a genus of lizards found in Australia. It is one of the most ferocious-looking, though at the same time one of the most harmless of reptiles, the horns on the head and the numerous spines on the body giving it a most formidable and exceedingly repulsive appearance.

Molokai, an island of the Hawaiian group, about 40 miles long by from 7 to 9 broad. It is noted for its settlement of lepers, all persons on the islands found to be affected with the disease being sent by government to Molokai, and kept entirely isolated from the healthy part of the community.

Moltke, Helmuth Karl Bernhard, Count von, a Prussian military officer, one of the greatest soldiers of Europe; born in Paschim, Mecklenburg-Schwerin, Oct. 26, 1800. He was the son of a German officer. The unusual character of Von Moltke's

genius did not appear till Prince William ascended the Prussian throne as regent in 1858. Bismarck became prime minister, Von Roon was made secretary of war, and Von Moltke was appointed chief of staff. These men coöperated successfully in the reorganization of the armed forces of the kingdom, and perfected the weapon by which Prussia fought her way to the first place in Europe. Von Moltke planned the Danish campaign of 1864, and two years later immortalized himself by the result of the war with Austria. He keenly foresaw the war with France (1870–1871), and perfected his plan of campaign two years in advance of the outbreak of hostilities. War was declared by France, July 19, 1870, and seven days later three divisions of the Prussian army were on the frontier. By the middle of August Bazaire, with 180,000 Frenchmen, had been penned up in Metz, and on Sept. 1 Napoleon and Marshal MacMahon were entrapped at Sedan and obliged to surrender with 90,000 men. On Sept. 19 the Germans were before the walls of Paris. The Franco-Prussian War established the reputation of Von Moltke as the ablest strategist of his time. His own country showered honors on him, he becoming a count, a marshal, and a life-member of the Prussian House of Lords. In Parliament his only speeches were on military affairs, and he spoke so seldom that he was called "the silent one." It was a common saying in regard to his linguistic talents that "Von Moltke was silent in eight languages." He was retired for age in 1888, and died in Berlin, Prussia, April 24, 1891.

Moluccas, or **Spice Islands,** a name applied to the widely scattered group of islands lying between Celebes and Papua, between lat. 3° S. and 6° N., and lon. 126° to 135° E.; area, 43,864 square miles; population 399,208 approximately. They are divided into the residences of Amboyna, Banda, Ternate, and Menado; the S. portion being governed directly by the Dutch, and the N. indirectly through native sultans. The islands (several hundred in number) are nearly all mountainous, mostly volcanic, and earthquakes are by no means uncommon. Cloves, nutmegs, mace, and sago are exported to Europe; and birds'-nests, trepang, etc., to China. The natives belong to Malay and Polynesian races, and the general language on the coast is the Malay.

Mommsen, Theodor, a German historian; born in Garding, Schleswig, Nov. 30, 1817. He was Professor of ancient history at Berlin, 1868; member of the Prussian House of Delegates. His great work is "Roman History." He wrote besides, "Roman Chronology down to Cæsar"; "History of Roman Courage"; He was editor-in-chief of the great "Body of Latin Inscriptions" (15 vols. and supplement, 1863–1893). His historical work incorporates the results of vast learning in widely severed fields. He died at Charlottenburg, after a long illness, Sunday, November 1, 1903.

Momus, the god of mockery and censure among the ancients. He was the son of Night and was expelled from heaven for his free criticism of the gods. Momus is generally represented raising a mask from his face and holding a small figure in his hand.

Mona, a monkey from Senegal. It is remarkable for its brilliant coloration; the head being olive-yellow, with a black stripe on the forehead; yellowish whiskers and a purple face. The back is chestnut-brown, and there is a white spot on each side near the root of the tail, which is black.

Mona, a small island of the West Indies, 42 miles E. of Porto Rico, in the middle of Mona Passage, to which it gives its name; area, nearly 10,000 acres. It is a coral formation. Mona came into the possession of the United States under the peace treaty with Spain in 1898. The only resident on the island is a lighthouse keeper.

Monachism, the system of monastic life; monkery, monkishness.

The most gigantic development of monachism the world has ever seen is that of Buddhism, and it was the earliest in point of date. The Jain system is also monastic. Brahmanism possesses it to a less, but still to a considerable extent.

In the 2d century certain persons who aimed at stricter piety than their neighbors often held converse together without quite separating from society. They were called ascetics, and pre-

pared the way for the rise of monachism. They frequently resided in caves. In 305 Anthony, an Egyptian monk, collected many of the eremites into communities. These were called cœnobites. In the early part of the 6th century St. Benedict introduced new regulations, and all the monastic orders for some centuries were Benedictine. Many ordinary monks becoming corrupt, the new Order of Canons was instituted in the 12th century, and, as the great wealth which their communities had acquired was believed to be one of the main causes of that corruption, these arose, in the beginning of the 13th century, different mendicant orders, the members of which vowed poverty. At first all the monks were laymen; now they consist of three classes: (1) Priests; (2) choir monks, in minor orders; and (3) lay-brothers, who act as servants and laborers. Originally they were under the jurisdiction of the bishop, but ultimately they were exempt from all authority except that of the Holy See. The influence of the mendicant orders was on the wane at the Reformation, and the Jesuits took their place. At that date many monasteries in England and elsewhere were deprived of their endowments and suppressed. Those of France were swept away in the first Revolution. Though since restored, they have not attained their former importance. The enforcement of the law against unauthorized religious associations has dealt a final blow to monachism in France, and many have come thence to England and the United States. It may be said that monachism is more securely established in North America than in any country of Western Europe, not even excepting Spain.

Monaco, a principality lying between the French department of Alpes Maritimes (Nice) and the Mediterranean. In 1861 the Prince of Monaco sold the departments of Mentone and Roccabruna to France for $800,000; and the principality has since been confined to an area of 8 square miles, with a population of 13,304. The prince (a scion of the house of Grimaldi) exercises both legislative and executive functions, while the people are exempt from taxation, as the revenue is almost entirely derived from the rents of the gaming establishment. The capital, Monaco, on a rocky height projecting into the sea, is a renowned watering-place. About a mile to the E. is Monte Carlo, a collection of hotels and villas which have sprung up near the luxurious gardens of the handsome gambling casino, established here in 1860. This institution is now the property of a joint stock company. The inhabitants of Monaco (Monegasques) are not admitted to the games.

Monad, in chemistry, univalent element. A name given to those elements which can directly unite with, or replace, one atom of hydrogen in a compound. The monad elements are hydrogen, chlorine, bromine, iodine, fluorine, lithium, sodium, potassium, ruthenium, cæsium, and silver.

Monadnock, The, a twin-screw, iron, double-turreted monitor of the United States navy.

Monarchy, a state or government in which the supreme power is vested in the hands of a single ruler, and which is absolute, limited, or constitutional, hereditary, or elective. An empire; a kingdom; the state or country ruled by a monarch, absolute or constitutional.

Monastery, a class of structures which arose in the Middle Ages to meet the requirements of the large number of monks that then existed.

Monastic Vows, the solemn promises made to God by the monks. They are three in number: poverty, chastity, and obedience. The vow of poverty prevents the monks from holding any property individually. Monasteries, however, professing merely the "high" degree of poverty may possess real estate, yet not more than enough for their support, as the Carmelites and Augustines. In the "higher" degree a monastery may hold only personal property, as books, dresses, supplies of food and drink, rents, etc., as the Dominicians. The "highest" degree absolutely forbids both real and personal property, as is the case with the Franciscans, and especially the Capuchins. The vow of chastity requires an entire abstinence from familiar intercourse with the other sex; and that of obedience entire compliance with the rules of the order and the commands of the superior.

Monboddo, James Burnett, Lord, a Scotch jurist; born in Monboddo House, Fordoun parish, Kincardineshire, in 1714. In 1767 was raised to the bench by the title of Lord Monboddo. He wrote: "Origin and Progress of Language"; the evolution theory in which the assertion of a close relation between man and the orang-outang, seem less laughable now than they did to Monboddo's contemporaries. He died in Edinburgh, Scotland, May 26, 1799.

Monday (that is, moon-day; Anglo-Saxon, Monandæg; German, Montag), the second day of our week, formerly sacred to the moon.

Monetary Convention, there are two groups of European nations, between whose members an agreement has been entered into for the regulation of their coinage. They are called the "Latin Monetary Convention," and the "Scandinavian Monetary Convention." The former includes France, Belgium, Italy, and Switzerland, the agreement having been made in December, 1865, in virtue of which the coinage of those countries are of the same weight and fineness. Greece subsequently joined the convention, and Spain, Austria, and Hungary, Finland, Rumania, Servia, Bulgaria and Monaco have also coined large amounts of either or both gold and silver money, of weight, fineness, and value, exactly proportionate to, or identical with that of the countries included in the convention. Since Aug. 2, 1892, the gold standard has prevailed in Austria, and since Oct. 1, 1897, in Japan. The "Scandinavian Monetary Convention," dates from 1873, and includes Norway, Sweden and Denmark.

Money, a word, in its ordinary sense, equivalent to pieces of metal, especially gold and silver, duly stamped and issued by the government of a country to serve as a legalized standard of value. In this sense it is more precisely designated metallic money or coin to distinguish it from paper money, from which latter it is also distinguished by having an intrinsic value.

On Oct. 1, 1901, the population of the United States was officially estimated at 78,098,000, and the total amount of money in circulation that date was equal to $28.52 for every man, woman and child in the country.

Mongolia, a vast region of the N. E. of Asia, belonging to the Chinese empire, situated between China proper and Asiatic Russia; area, 1,288,000 square miles; pop. est. 2,000,000. A great part of it is occupied by the Desert of Gobi or Shamo, and on or near its borders are lofty mountain chains, the principal of which are the Altai, the Sayansk, the Khinghan, and the Inshan. The inhabitants lead a nomadic life. They possess large herds of cattle, sheep, and horses. The climate is intensely hot in summer and bitterly cold in winter.

Mongolian, in philology, an epithet sometimes applied to the whole class of Turanian tongues; sometimes specifically applied to that group spoken by the Kalmucks and other tribes from Tibet to China. In ethnology, one of the five great races of the world discriminated and named by Blumenbach, and adopted by Cuvier when he reduced Blumenbach's five to three. The head is square; the face flattish, nearly as broad as long, the parts not well distinguished from each other; the eyelids narrow, obliquely turned up at their outer angle; the space between the eyes flat and broad, the nose flat, the cheeks projecting, the chin somewhat prominent. The hair is straight, the color black, that of the face and body yellowish (sometimes inaccurately called olive, which implies an admixture of green). It includes not merely the natives of Mongolia properly so called, but the Tartars, the Chinese, the Japanese, the Samoeides, the Cochin Chinese, the Burmese, the Tamuls, the Turks, the Hungarians, and the Finns.

Monitor, the type of a family of lizards. They are the largest of the lizard order, some species, such as that of the Nile and Egypt, attaining a length of six feet. They generally inhabit the neighborhood of rivers and lakes, and feed upon the eggs of crocodiles, turtles, and those of aquatic birds. The name is owing to the belief formerly entertained that these lizards gave warning of the approach of crocodiles.

Monitor, the popular name for a class of very shallow, heavily-armed iron-clad steam vessels, invented by Ericsson, carrying on their open decks either one or two revolving turrets,

each containing one or more enormous guns, and designed to combine the maximum of gun-power with the minimum of exposure. Monitors are so called from the name of the first vessel of the kind, built during the American Civil War, which proved its

MONITOR.

superiority in a famous engagement with the "Merrimac" in 1862, at Hampton Roads, at the mouth of James river, Va. The "Merrimac" at last gave up the contest, badly damaged, and so much disabled as to require the aid of tugs to get her away. The "Monitor" was uninjured. As the first encounter of iron-clad vessels, this contest created much interest in all maritime nations, and was the direct cause of many modifications in the construction of warships in the navies of Europe, though nowhere except in the United States navy was the monitor adopted as a distinct type of warship. The construction of monitors is thought to have led to that of torpedo boats.

Monk, a male religious living in community (except the Chartreux and Camaldoli, who are strictly solitary), bound by rule and practising the counsels of perfection. The name was in universal use till the rise of the friars in the 13th century, and belongs properly to none but members of the Benedictine Order and its offshoots, though it is often loosely applied to any male religious.

Monk, George, Duke of Albemarle, an English military commander; born in Potheridge, Devonshire, England, Dec. 6, 1608. After the death of Cromwell he was influential in restoring the Stuart family to the throne, in the person of Charles II. As the reward of his loyalty, he was created Duke of Albemarle, with a pension of $5,000 a year, made a privy-councillor, and invested with the order of the Garter. In 1664 he was appointed admiral of the fleet in conjunction with Prince Rupert, and in 1666 obtained a great victory over the Dutch, in a battle which lasted three days. He died Jan. 3, 1670, and was buried in Westminster Abbey.

Monkey. In zoology (1) A popular name for any one of the quadrumanous mammals having a well developed tail, those wanting tails being called apes. (2) A quadrumanous mammal having a tail and callosities, but no cheek pouches, as distinguished from a baboon, which has both, and an ape, which, besides being tailless, has neither.

Monmouth, Battle of, an engagement between the American forces under General Washington, and the British under Sir Henry Clinton, near Freehold, Monmouth co., N. J., June 28, 1778. General Washington, having overtaken the British forces which had previously evacuated Philadelphia for the purpose of embarking at Sandy Hook, ordered the advance, under Gen. Charles Lee, to attack the enemy. The Americans were at first successful, but from some unknown cause they were seized with a panic, in which General Lee participated, and fell back to the main body. General Washington denounced Lee, succeeded in rallying the fugitives, and repulsed the British. The approach of night and the exhaustion of the men prevented a pursuit, and the British succeeded in escaping under cover of darkness. The American loss was 69 killed and 160 wounded; that of the British, nearly 300 killed and 100 prisoners, including the wounded.

Monmouth, James Fitzroy, Duke of, a natural son of Charles II. of England; born in Rotterdam, April 9, 1649. At the age of 14 he was created Duke of Monmouth, and two years later was made Master of the Horse. On the accession of James II., being urged to the act by some of his partisans, he landed at Lyme, with scarcely 100 followers (June, 1685), but their numbers were soon increased, and he assumed at Taunton the title of king, and asserted the legitimacy of his birth. The royal forces were sent against him, and an engagement took place at Sedgmoor, near Bridgewater, July 6. The rebels were defeat-

ed, and the duke himself was made prisoner. He nobly refused to betray his accomplices, and conducted himself with much firmness on the scaffold, where his head was severed from his body, after four unsuccessful blows, July 15, 1685.

Monmouth College, a coeducational institution in Monmouth, Ill.; founded in 1856 under the auspices of the United Presbyterian Church.

Monogram, a character or cipher composed of one, two, or more letters interwoven, and used as a sign or abbreviation of a name or word. The term is now applied to conjoined initials of a personal name on seals, trinkets, letter paper, and envelopes, etc., or employed by printers, painters, engravers, etc., as a means of distinguishing their work.

Monograph, a work in which a particular subject in any science is treated by itself, and forms the whole subject of the work — "an all-sided and exhaustive study of a special or limited subject," as it has been called. Monographs have contributed much to our knowledge, especially in the department of the natural sciences. The term, however, is often used for a small book on miscellaneous topics.

Monolith, a column or block formed of a single stone; the term is applied to such erections as the obelisks of Egypt.

Monomania, madness or derangement of the mind with regard to one subject only.

Monometallism, the fact or principle of having only one metal as a standard for coinage; belief in the advantages of a single metallic standard for money.

Monopoly, an exclusive trading right over; the exclusive right or privilege of production, sale, or purchase of any commodity; the sole right or power of selling any commodity; the execlusive right or privilege of trading in any community, or with any country; license from the proper authority to any person or company to make, sell, export, import, buy, or otherwise deal in any commodity or number of commodities. Thus, a patent for an invention gives the patentee the exclusive right of making or dealing in the article patented. Also that which is the subject of a monopoly; as, Opium is a government monopoly in India; the Standard Oil Company have a monopoly. Also the assuming or claiming right to or possession of anything to the exclusion of others; as, He claims a monopoly of the conversation.

In law, the only monopolies that the laws of the United States and the individual States look on with favor consist of the Postoffice, which is a government monopoly, and the rights granted to individuals under the Patent and Copyright laws; a patent covering a period of 17 years with no renewal except by a special act of Congress, and a copyright 28 years with a renewal of 14 years if certain conditions are complied with. Monopolies commonly known as trusts are looked on with odium, and various States have enacted laws making a trust an illegal combination of individuals.

Monotheism, the term usually employed to denote a belief in the unity of the Godhead, or belief in and worship of one God. It is thus the opposite of polytheism. The doctrine of the Trinity is thought by some (e. g. the Unitarians) to be incompatible with the monotheism taught by Jesus Christ, and is therefore rejected as no part of His teaching. Mohammedans and Jews, of course, reject with vehemence the least approach to a Trinitarian conception of the Deity.

Monothelitism, the doctrine of the Monothelites, that Christ had but one will in His two natures.

Monroe, Fort, the most extensive work of a defensive character in the United States, formerly known as Fortress Monroe. It is situated at the end of the peninsula of Old Point Comfort, Va., between the York and the James rivers. The position of the fort commanding the waters of Hampton Roads and the approach to Norfolk makes it a vital point in the line of coast defense. The work was begun in 1817 (the year of the election of President Monroe for whom it was named) and the original intention was to construct a fortress of European type. The design was never carried out, and, though bastioned, the fort is unaccompanied by the outworks usual in the class of defensive works called fortresses.

Monroe, James, an American statesman and 5th President of the United States; born in Westmoreland co., Va., April 28, 1758. He enjoyed the advantages of a classical school and of William and Mary College, which he left, in 1776, after two years' study to join the Continental army. He was wounded at the battle of Trenton, took active part in the battles of Brandywine, Germantown, and Monmouth, rising to the rank of colonel. In 1782 he was elected to the Assembly of Virginia, and in 1783 became a delegate to the Continental Congress. On leaving Congress after three years of service he returned to law practice, but was immediately elected to the Virginia Legislature, and the next year, 1788, became a delegate to the Virginia convention that ratified the Constitution in which he opposed its adoption. Washington appointed him minister to France in 1794. On his return, in 1799, he was elected governor of Virginia. In 1802 he was sent to France as envoy extraordinary by Jefferson to negotiate the Louisiana Purchase. He was minister to Great Britain in 1803–1808, where he negotiated a treaty that proved so unacceptable to the people and Congress of the United States that he was for a time extremely unpopular. He retired to Virginia, but was again elected governor in 1811, and the same year appointed Secretary of State under Madison, combining in his duties also the functions of Secretary of War. In 1817 he succeeded Madison as President, and was reëlected to a second term. His administrations were uneventful, the chief features of note being the purchase of Florida from Spain, the adoption of the Missouri Compromise, and the enunciation of the Monroe Doctrine. In 1825 he retired to private life in Virginia. In 1830 he took up his residence with his son-in-law in New York, where he died, July 4, 1831.

Monroe Doctrine, a policy of the United States, first definitely announced by President James Monroe, that is intended to prevent interference by European powers in the affairs of the several American States. President Monroe's annual message to Congress in 1823 contained the following sentences: "We owe it to candor and to the amicable relations existing between the United States and the allied powers, to declare that we should consider any attempt on their part to extend their system to any portion of this hemisphere as dangerous to our peace and safety. With the existing colonies or dependencies of any European power we have not interfered, and shall not interfere; but with the governments which have declared their independence and maintained it, and whose independence we have, on great consideration and just principles, acknowledged, we could not view an interposition for oppressing them, or controlling in any other manner their destiny by any European power, in any other light than as a manifestation of an unfriendly disposition toward the United States." Also, "The American continents should no longer be subjects for any European colonial settlement." These expressions embody what is known as the Monroe doctrine. President Monroe's mention of these subjects was occasioned by the formation in Europe, a few years previously, of what was called the "holy alliance"— an alliance between Russia, France, Austria, and Prussia to maintain the monarchical system of government in Europe. It was supposed that they desired to extend their operations to the New World also, especially with reference to the colonies of Spain, some of which had asserted, and obtained from the United States the recognition of, their independence. England sided with the United States on this question, and the result was that the allies did not carry out their project. As popularly understood, the Monroe doctrine meant a political protection and a guaranty of freedom from European interference to all states of North and South America.

Monsignore, a title of honor given to prelates of the Roman Catholic Church.

Monsieur (abbreviated M.; plural Messieurs, abbreviated MM.). In common use in France, it answers both to sir and Mr., and is also used before titles.

Monsoons, a modification of the trade winds, operative from the Tropic of Cancer to lat. 7° S., and from the coast of Africa through the Indian

Ocean and the Bay of Bengal to Japan and the Western Pacific. There are two monsoons, the Southwestern and the Northeastern. The latter prevails from October to April, and the former from April to October. The bursting of the monsoon commences the rainy season in India, the Southwestern bringing that of Bombay and Central India, and the Northeastern that of Madras and other parts of the coast. The monsoons are caused by the unequal heating of the land and water and of the several land masses themselves in the regions which they affect.

Monstrosity, a character appearing in an individual animal or plant, which is very rare in the species to which it belongs. They arise in man, in the inferior animals, and in plants.

Montagnards, or simply **Montagne** ("the Mountain"), the name given to the extreme democratic politicians in the first French Revolution, because they seated themselves on the highest benches of the hall in which the National Convention met. The body included both Jacobins and Cordeliers, the men of "the Reign of Terror." The antagonistic party were "the Plain" the Girondists, who sat on the lowest benches, on the floor of the house.

Montagu, Lady Mary Wortley, an English author; the eldest daughter of Evelyn, Duke of Kingston; born in Thoresby, Nottinghamshire, England, about 1689. In 1712 she married Edward Wortley Montagu, whom she accompanied in 1716 on his embassy to Constantinople, from which place she wrote "Letters" to Pope, Addison, and other eminent literati of the time, which are very interesting and contain many curious facts respecting the manners of the Turks. She also first introduced the practice of inoculation into her native country. Her collected works have been published in six volumes; and her "Letters" certainly place her at the head of female epistolary writers in Great Britain. She died in England, Aug. 21, 1762.

Montaigne, Michel, Seigneur de, a French essayist; born in Chateau of Montaigne, Dordogne, France, Feb. 28, 1533. He was taught Latin from his cradle, and till he was six years of age was not permitted to hear any other language. He was then sent to the college of Guienne, at Bordeaux, where he remained seven years, having in that time gone through the whole college course. His great work, his "Essays" (1580), contains a treasure of wisdom. The essays embrace a great variety of topics touched upon in a lively entertaining manner, with all the raciness of good sense, careless of system or regularity. They are not written in formal style on any particular subject. Sentences and anecdotes from the ancients are interspersed at random. He died Sept. 13, 1592.

Montalambert, Charles Forbes Rene, Comte de, a French publicist; born in London, England, May 29, 1810. His father was a French emigre, afterward a peer of France under the Restoration; his mother was English. Of his numerous writings the chief are: "Monks of the West"; "Life of Saint Elizabeth of Hungary"; and "Political Future of England." He died in Paris, France, March 13, 1870.

Montana, a State in the Western Division of the North American Union, admitted to the Union, Nov. 8, 1889; numer of counties, 26; area, 145,310 square miles; pop. (1890) 132,159; (1900) 243,329; capital, Helena.

The surface of the State is highly diversified. In the W. it is extremely mountainous. E. of the Rocky Mountains is a rolling tableland, traversed by several large rivers. In the S. near the Yellowstone river the mountains reach an altitude of 10,000 feet and the peaks are perpetually covered with snow. The mountains are intersected by numerous valleys and canyons, through which flow beautiful rivers.

The State is exceedingly rich in minerals, though the resources are but partially developed. Gold, silver, lead, copper, and coal are found in large quantities. In 1899 Montana ranked first in the United States in the output of copper, with 1,496,451 pounds. In the production of gold and silver she holds second place, with an output of gold, 320,270 fine ounces, valued at $4,760,000; and silver, 16,096,000 fine ounces, valued at $20,810,000. The production of lead was 10,227 short tons; coal, 1,496,451 short tons, valued

at $2,347,757; and coke, valued at $356,190. The building stones were granite, valued at $9,950; sandstone, $26,160; and limestone, $113,718.

The soil under proper irrigation, excepting in the mountain district, becomes quite fertile, and useful for agricultural purposes. The mountains are well covered with forests of willow, cottonwood, poplar, pine, spruce, fir, cedar, and balsam. There is little or no hardwood timber in the State. The valleys afford excellent grazing facilities and the "bunch grass," which covers the hillsides and plains, makes excellent fodder for cattle. Much advance had been made in agriculture since 1885 by the introduction of improved irrigating appliances. The principal farm crops are hay, oats, wheat, and potatoes.

In 1900 there were reported by the United States census, 1,080 manufacturing establishments, employing $40,945,846 capital and 10,117 persons; paying $7,969,886 in wages, and $32,702,650 for raw materials; and having an annual output valued at $57,075,824. The principal industries were the refining and smelting of copper and lead, slaughtering and meat packing, and the manufactures of foundry and machine shop products, lumber and timber, malt liquors, flour and grist mills, masonry, railroad cars, plumbing, saddlery and harness, clothing, tobacco, and cigars.

The governor is elected for a term of four years, and receives a salary of $5,000 per annum. Legislative sessions are held biennially, beginning on the first Monday of January, and are limited to 60 days each. The Legislature has 26 members in the Senate and 72 in the House. There is one representative in Congress.

Montana, University of, a coeducational, non-sectarian institution in Missoula, Mont.; founded in 1895.

Montanism, the religious system of Montanus, an inhabitant of a Phrygian village called Pepuza, who, about A. D. 171, proclaimed himself the Paraclete or Comforter promised by Jesus, and he was professed to utter prophecies. They continued till about the 6th century.

Montauk Point, the extreme E. point of Long Island, N. Y. On it is a stone lighthouse, visible 19 miles. Here, in 1898, the War Department established Camp Wikoff, for sick, wounded, and convalescent soldiers who had served in the Santiago campaign.

Mont Blanc, the highest mountain in Europe (if the Caucasus be regarded as Asiatic); 15,782 feet above sea-level; situated in France, close to the Italian frontier, 40 miles S. of the Lake of Geneva. There is an observatory (1890) at a height of 14,470 feet.

Montcalm, Louis Joseph Saint Veran, Marquis de, a French general; born near Nimes, France, Feb. 29, 1712. Having entered the army he distinguished himself in several campaigns in Europe, and in 1756 was appointed to the chief command of the French troops in Canada. Here he took Fort Ontario (Oswego) and Fort William Henry (on Lake George), and occupied Ticonderoga (1758); but at Quebec, Sept. 14, 1759, was completely defeated by General Wolfe on the Heights of Abraham, both commanders being mortally wounded.

Mont de Piete, a public benevolent institution, existing in Italy, France, Spain, etc., and said to have been first established at Perugia in the latter half of the 15th century by Father Barnabas of Terni, and to have taken its name from the hill on which it was situated. The object was to deliver the needy from the usurious money lenders, by lending money on pledges at a very moderate rate of interest, so as barely to cover the necessary expenses. There are at present, besides those in Italy, about 50 monts de piete in France, upward of 100 in Holland, about 20 in Belgium, and some in Germany. The mont de piete of Paris advances to the value of about two-thirds of the pledges, charging interest at the rate of 4½ per cent. per annum, besides ¾ per cent. per month for the expenses of the establishment.

In 1894, the Rev. David H. Greer, D. D., rector of St. Bartholomew's Protestant Episcopal Church, New York city, and now coadjutor bishop of New York, inaugurated a similar system of temporary loans, on security, for people who would otherwise have to deal with regular pawn-brokers.

Monte Carlo, the casino in Monaco. The first stone was laid in 1858. The "Association of the Watering-

Place and Strangers' Club of Monaco," whose capital is $6,000,000 in 60,000 shares, holds a contract, which was made with the late Prince Charles, and expires in 1913. It has practically to bear the cost of spiritual and temporal government for the principality, paying annually $650,000, of which $250,000 goes to the Prince, and the remainder to State purposes, justice, police, church, education, etc.

Monte Cristo, a small island 6 miles in circumference belonging to Italy, 25 miles S. of Elba, the seat of a penal colony. Dumas has given the name of this isle to the hero of one of his most popular romances.

Montefiore, Sir Moses, a Jewish philanthropist, descendant of a wealthy family of bankers; born in Leghorn, Italy, Oct. 24, 1784. From 1829 onward he took a prominent part in the struggle for removing the civil disabilities of English Jews. In 1837 he was knighted, and in 1846 was raised to a baronetcy in recognition of his meritorious public services. He distinguished himself by his practical sympathy with his oppressed countrymen in various parts of the East, chiefly in Poland, Russia, Rumania, and Damascus. He made seven journeys to the East, the first being in 1827, and the latest in 1874, chiefly for the amelioration of the condition of his countrymen. In memory of his wife he endowed a Jewish college at Ramsgate in 1865. In his 100th year he was still hale and well, but died in Ramsgate, England, July 29, 1885.

Montenegro, an independent principality in Europe, in the N. W. of Turkey; area, about 3,630 square miles; pop. (1900) 228,000. The surface is everywhere mountainous, being covered by an extension of the Dinaric Alps, rising to the height of 8,850 feet. There are, however, a few beautiful and verdant plains and valleys, in which the soil is tolerably fertile. The climate is healthy. Forests of beech, pine, chestnut, and other valuable timber cover many of the mountain sides. Fruit trees of all kinds abound, especially in the sheltered valleys, where even almonds, vines, and pomegranates ripen. Agriculture is in a very rude and inefficient state, though every cultivable piece of land is planted with wheat, cabbages, or some other useful plant. Sheep, cattle, and goats are reared in great numbers. Manufactures, with exception of a coarse woolen stuff, are unknown. The chief occupations of the Montenegrins are agriculture and fishing, trade being altogether left to foreigners. The exports are sheep and cattle, muttonhams, sumach, honey, hides, cheese, butter, and other agricultural produce. The Montenegrins are pure Serbs and speak a Serbian dialect. They are generally of tall stature and well proportioned. In religion they are of the Greek Church. Education, though once neglected, is free and compulsory. Montenegro is nominally a constitutional monarchy, with a state council of eight members, but the prince is practically absolute. The history of Montenegro for many years is a record of deadly struggle with the Turks, and of a slowly-growing civilization among its inhabitants. The present ruler, Prince Nicholas I., was proclaimed Aug. 14, 1860. In 1861–1862 he engaged in a not altogether successful war against Turkey; but in 1876 he joined Servia and in 1877–1878 Russia against his hereditary foe, with the results that 1,900 square miles were added to his territory by the Treaty of Berlin; that the port of Antivari and all the waters of Montenegro were closed to the ships of war of all nations; and that the administration of the maritime and sanitary police on the coast was placed in the hands of Austria.

Monterey, a city and capital of the State of Nuevo Leon, Mexico; is in a fertile plateau-valley, 670 miles N. of Mexico city. It is a well-built town, with a thriving trade, and contains a cathedral, seminary, and schools of law and medicine. Founded in 1599, it was taken by the American army under General Taylor in 1846. Pop. (1902) 45,695.

Monterey, The, a double turreted monitor of the United States navy.

Montesquieu, Charles de Secondat, Baron de, a famous French writer; born in the castle of La Brede, near Bordeaux, France, Jan. 18, 1689. In 1716 he became president of the Parliament of Bordeaux. The publication of the "Persian Letters" first made him famous as an author. His greatest work is the

"Spirit of Laws," which occupied him 20 years, was published in 1748, and secured to him a very high place among writers on political science. He died in Paris, Feb. 10, 1755.

Montevideo, capital of Uruguay, on a small peninsula on the N. coast of the estuary of the La Plata, 130 miles E. S. E. of Buenos Ayres. It is one of the best built towns in South America, and enjoys one of the finest climates. The commercial development of Montevideo was much retarded by the shallowness of its harbor; but this has been greatly improved, and extensive dry docks have been constructed. The chief exports are wool, hides, tallow, dried beef, and extracts of flesh; chief imports, cottons, woolens, hardware, and other manufactured articles. Montevideo sends out above half the whole exports of Uruguay, and receives all but a small fraction of the imports. Pop. (1900) about 249,251.

Montezuma II., surnamed Xocojotzin, or "The Younger," 9th King of Mexico; born about 1476. He was elected on the death of his grandfather, in 1502. In 1519, Cortez and the Spaniards invaded the empire and approached the capital. Montezuma sent presents and complimentary messages to them, but was in the utmost terror. He at length went with a magnificent cortege to meet Cortez, and conducted him into the city, where after eight days of ceremonious civilities, Cortez made Montezuma his prisoner, and the captive king professed himself a vassal of Charles V. He remained inflexible in the matter of religion. Left by Cortez, in 1520, in charge of Alvarado, and a small body of Spaniards, severe conflicts took place in the city, which were renewed on the return of Cortez. The Mexicans assaulted the city on June 27, and Montezuma, while standing on the walls in his royal robes, exhorting his subjects to submit to their enemies, was wounded by Mexican arrows, and by the blow of a stone, before the Spaniards could cover him with shields. He refused all food and attendance to his wounds, and died June 30, 1520.

Montfort, Simon de, a French crusader, descended from the lords of Montfort, near Paris. His career dates from 1199, when he went to the Holy Land, companion-in-arms of Thibault, Count of Champagne; but it becomes of more historical importance in 1208, when he was appointed chief of the barbarous crusade against the Albigenses, then protected by Raymond, Count of Toulouse. In 1213 he obtained a great victory at Muret over the confederated armies of that prince, of his brother-in-law, Peter, King of Arragon, and the nobles who had united with them, and was then appointed by the Pope sovereign of all the countries conquered from the alleged heretics. He was killed while besieging Toulouse, June 25, 1218.

Montfort, Simon de, younger son of the preceding, and a leader of the English barons in rebellion against Henry III. De Montfort, when in almost absolute power, was the first to summon representatives of the boroughs to Parliament and thereby originated the House of Commons. He was born about 1208, and killed in the battle of Evesham, August 5, 1265.

Montgolfier, Joseph Michel (1740-1810) and **Jacques Etienne** (1745–1799), joint-inventors of the balloon, were born in Vidalon-les-Annonay, in the department of Ardeche, in France. Their first balloon inflated with rarefied atmospheric air, ascended from Annonay in 1782, and the invention soon brought them fame and honors. Joseph was also the inventor of the water-ram.

Montgomery, Richard, an American military officer; born in Swords, Ireland, Dec. 2, 1737. He entered the army of Great Britain and was with Wolfe at the taking of Quebec in 1759. On his return to England he resigned his commission and emigrated to America. On the breaking out of the Revolutionary War, the command of the Continental forces in the N. department was bestowed on him. He reduced Fort Cherokee and took Montreal. He fell Dec. 31, 1775, in an attempt on Quebec, being struck by a ball from the only gun fired by the enemy.

Montgomery, The, a twin-screw, steel unprotected cruiser of the United States navy.

Month, in astronomy, properly the time in which the moon makes one

complete revolution round the earth, or appears to return to precisely the same point in the heavens from which it started. The time of the revolution now described is properly 29 days, 12 hours, 44 minutes, and 3 seconds.

Monti, Luigi, an American writer; born in Palermo, Sicily, in 1830. Being exiled, he went to Boston, Mass., in 1850. Besides contributions to magazines, he published "The Adventures of an American Consul Abroad." Longfellow introduced him in his "Tales of a Wayside Inn" as the young Sicilian.

Monticello, the former residence of Thomas Jefferson, in Albemarle co., Va., near Charlottesville. The great statesman is buried in a small private graveyard, adjoining the road leading to the house.

Montmorency, a river of Quebec, a tributary of the St. Lawrence, famous for its beautiful falls, 8 miles N. E. of Quebec. Here the stream is 100 feet wide, and the falls have a sheer descent of 250 feet.

Montojo, Patricio, a Spanish naval officer; born about 1833; commanded the fleet of Spain in the battle of Manila Bay, May 1, 1898. His flagship, the "Reina Christina," was engaged in turn by the "Olympia," the "Baltimore," the "Raleigh," and the "Boston" of the American fleet. The flagship having received 70 shots that killed 52 men and wounded 150, and having taken fire, the admiral transferred his flag to a gunboat. His fleet was entirely destroyed or sunk. During September of the following year, Admiral Montojo was tried by court-martial in Madrid, and was condemned to retirement without the right of promotion. In his defense, he contended that the responsibility of the defeat at Manila Bay rested on the Spanish government, which had failed to put the fleet and harbor in a defensive condition.

Montpelier, a city, county-seat of Washington co., and capital of the State of Vermont, on the Winooski river, and on the Wells River, 40 miles S. E. of Burlington. Pop. (1900) 6,266.

Montpensier, Antoine Marie Philippe Louis D'Orleans, Duc de, 5th son of Louis Philippe, king of the French; born in Paris, July 31, 1824. He married the Infanta Maria Louisa, sister of Queen Isabella II. of Spain. Montpensier, after receiving the title of Infant of Spain, was made captain-general of the Spanish army in 1859. His eldest daughter, Princess Maria, was married in 1864, to her cousin, the Count of Paris, heir male of the royal house of Orleans. After the flight of Isabella II. from Spain in 1868, the duke was proposed as a candidate for the crown. In 1878, his third daughter, Mercedes, became the wife of King Alfonso XII. of Spain. She died in June of the same year. Montpensier died near Seville, Spain, Feb. 4, 1890.

Montreal, the metropolitan city of Canada; on an island of the same name, in the province of Quebec, at the head of ocean navigation on the St. Lawrence River; 160 miles N. of Quebec. A fine natural harbor for ocean-going ships has been greatly improved by extensive dredging and gigantic works and improving the wharfage accommodations. The ship channel between Montreal and Quebec has been dredged to a depth of 27 feet at an expense of about $5,500,000.

The winter is severe with a mean temperature of 16.7°, the thermometer occasionally dropping to 25° or 30° below zero; it also has a hot summer, with a mean temperature of 65.1°, the thermometer occasionally rising to 90°. The establishment of a splendid electric street railway service, has incidentally led to the removal of most of the snow from the main thoroughfares.

The twin towers of the Roman Catholic Church of Notre Dame, the parish church of Montreal built 1824–1829, constitute the most characteristic landmark of Montreal. The towers are 227 feet high, and one of them contains the largest bell on the continent, the "Gros Bourdon," weighing 24,780 pounds. The church is the largest in North America, and will hold 15,000 people.

Chief among educational institutions are McGill University; a branch of Laval University, Quebec; the medical faculty of Bishop's College University, Lennoxville; the Seminary of St. Sulpice; St. Mary's College (Jesuit); and the Ville Marie, Sacred

Heart and Hochelaga Convents. The public schools of Montreal are controlled by boards of Roman Catholic and Protestant School Commissioners respectively, who are appointed partly by the provincial government and partly by the city council. The common schools and high schools are supported partly by a school tax on real estate. No child is debarred from education through not being able to pay fees.

Ville Marie, afterward called Montreal, was founded by Maisonneuve, May 18, 1642, during the French regime in Canada. On Sept. 8, 1760, Montreal capitulated to General Amherst and the surrender of the city completed the conquest of New France by the English. In 1775 Montreal was captured by the Americans, who sent expeditions under Montgomery and Arnold to capture Quebec and Montreal; and General Carleton in command of the British forces at Montreal had to retreat to Quebec, where the Americans were ultimately defeated. In 1775 the American General Wooster made his headquarters in the Chateau de Ramergay, which still stands opposite the city hall and which was the official residence of the British governors after the conquest. In this same chateau, the Commissioners of Congress, Benjamin Franklin, Samuel Chase, and Charles Carroll, in 1776 met and held council under Gen. Benedict Arnold. In 1776 the American forces retreated. Montreal obtained its first city charter in 1833, the first mayor being Jacques Viger. The recent history of the city has been an almost unbroken record of commercial and industrial progress. Great impetus was given to its growth by the opening of the Canadian Pacific Railway; the first train on which left Montreal for Vancouver on June 28, 1886. Pop. (1901) city proper, 266,826, including suburbs, 332,544.

Montrose, James Graham, Marquis of, a Scotch noble, and a distinguished royalist leader under Charles I.; born in Edinburgh, Scotland, in 1613. He took a very active part on the side of the king, was created a marquis, and in a few months gained the battles of Perth, Aberdeen, and Inverlochy. In 1645 his fortune changed; and after suffering a defeat from Lesley, at Philiphaugh, near Selkirk, he was obliged to leave the kingdom; in 1648 he landed in Orkney with a few followers, but was soon overpowered, conveyed to Edinburgh, and there decapitated and quartered May 21, 1650.

Monumental City, Baltimore, Md. It contains the Washington, Battle, and many other monuments, whence its title.

Moody, Dwight Lyman, an American evangelist; born in Northfield, Mass., Feb. 5, 1837; received a common school education; united with the Mount Vernon Congregational Church in Boston in 1850; settled in Chicago, Ill., in 1856, and there built up a mission Sunday-school with more than 1,000 pupils. He subsequently built a church in Chicago, which was destroyed in the great fire in 1871, but was afterward rebuilt under the name of the Chicago Tabernacle. In 1873 he began, with Ira D. Sankey, the evangelistic work which soon made him famous. He met with unparalleled success both in the United States and Great Britain. In 1879 he founded a school for poor girls at Northfield, Mass., which later grew into the celebrated Northfield and Mount Hermon institutions. It is said that during his ministry, Mr. Moody addressed over 50,000,000 people. He died in Northfield, Mass., Dec. 22, 1889.

Moody, William H., an American statesman; born in Newbury, Mass., Dec. 23, 1853; was graduated from Harvard in 1876; was district attorney for the eastern district of Massachusetts, 1890–1895; was a member of Congress 1895–1902; when he was appointed by President Roosevelt to succeed John D. Long as Secretary of the Navy.

Moon, the single satellite attendant on the earth. Its diameter is 2,160 miles. Its superficial extent is about a 13th part of the earth's surface; its bulk is $\frac{1}{49}$ that of the earth, but as the earth is relatively heavier, its weight is about 80 times that of the moon. The moon shines only by the light of the sun reflected from its surface. To equal the brilliance of the sun 600,000 full moons would be required. The moon appears at all times nearly of the same size, showing that its orbit

cannot be far from circular. Its average distance is 240,000 miles, but the ordinary fluctuations do not exceed 13,000 miles on either side of the mean value. The moon performs a complete revolution around the earth in 27 days, 7 hours, 23 minutes, and 11,461 seconds. This is called its sidereal period. The lunar month is longer than the sidereal period by 2 days, 5 hours, 51.41 seconds, because of the advance of the earth in the orbit between two successive conjunctions of the moon. As the moon revolves on its own axis nearly in the same time as it completes its orbit round the earth, it presents to us at all times nearly the same side of its surface. No clouds appear on it. The whole surface is studded with volcanoes, apparently extinct. Their craters are broad, beyond anything existent on the earth. Some are 16,000 and 17,000 feet deep. From the absence of an atmosphere the moon must be uninhabitable by any life analogous to that with which we are acquainted. Early in 1898, Dr. George Waltemath, a German astronomer, announced the discovery of a small, "dark" moon near the earth, large enough to disturb the moon's motion. Prof. Richard A. Proctor in his "Other Worlds Than Ours" expresses the opinion that the earth is attended by several dark moons. Also a satellite of any planet. A blue-moon, an expression equivalent to the Greek kalends, never. In the moon; beyond the moon, beyond reach; extravagantly; out of depth. Moon in distance, in nautical language, a phrase denoting that the angle between the moon and the sun, or a star, admits of measurement for lunar observation.

Moon, Mountains of the, a high chain of mountains supposed to cross the continent of Africa from E. to W. On the earlier charts they were placed behind the fertile regions which line the S. side of the Mediterranean, separating them from the Great Desert; but as explorations have been pushed toward the heart of the "dark continent" the location of the mountains has been gradually changed by geographers southward.

Mooney, James, an American ethnologist; born in Richmond, Ind., Feb. 10, 1861. From a boy of 12 his specialty was Indian ethnology.

Moonshiner, a term applied in the Southern and Western States to makers of illicit whisky.

Moonwort, an interesting fern, of simple structure, consisting of a root-stock bearing a single erect stem from three to six inches high, found in North America and Northern Europe. The largest growing species is named the rattlesnake fern, from the circumstance that it generally abounds in places frequented by that reptile.

Moor, a native of the N. coast of Africa, now represented by the countries of Morocco, Algeria, Tunis, and Tripoli. In 709 the Arabs conquered Mauritania, and converted the people to Mohammedanism. The conquerors and the conquered amalgamated together, and in 711 an army of this mixed population, under Arab leaders, crossed at the Straits of Gibraltar, and began the conquest of the Spanish peninsula. This they speedily effected, with the exception of the mountainous districts of Asturias and Galicia. When almost the whole of the rest of Europe was sunk in ignorance and barbarism, learning and the arts flourished among the Moors in Spain. About the middle of the 11th century, many of the local governors threw off their allegiance, and established themselves as independent potentates. The wars that followed so weakened the power of the Moors, that the Christians rose against them under Alfonso, and took Castile, with its capital, Toledo. Subsequently they continued to extend their conquests till the power of the Moors was restricted to the kingdom of Granada, and in 1238 the king of that territory became the vassal of Ferdinand III., King of Castile. At length, in 1491, Ferdinand V., King of Castile and Aragon, after a 10 years' war, conquered this also, and put an end to the dominion of the Moors in Spain, after it had lasted nearly 800 years. A portion of the Moors then returned to Africa; but most of them remained in Spain. Philip II., however, in his hot zeal for Catholicism, resolved on their entire destruction, and by his oppressions and cruelties, drove them into insurrection, in Granada (1571), after the suppression of which over 100,000 of them were banished. Their expulsion from the country was com-

pleted by Philip III.; and this has been regarded as one of the leading causes of the subsequent decline of Spain; for they were ingenious and industrious citizens, and, after their departure, agriculture, trade, and manufacture fell into decay. The term Moor is sometimes used for a Mohammedan.

Moore, Charles Leonard, an American poet; born in Philadelphia, Pa., March 16, 1854; he was consul at San Antonio, Brazil, 1878–1879.

Moore, Clement Clarke, an American author; born in New York city, July 15, 1779. He was the compiler of the first Hebrew and Greek lexicon published in America, and the author of a book of "Poems," in which is included his best-known poem, "A Visit from St. Nicholas." He was the donor of the extensive grounds on which the General Theological Seminary, New York city, stands. He died in Newport, R. I., July 10, 1863.

Moore, George Henry, an American historian; born in Concord, N. H., April 20, 1823. He died in New York city, May 5, 1892.

Moore, Horatio Newton, an American dramatist; born in New Jersey in 1814. His first work of importance, "Orlando, or Woman's Virtue," a tragedy, was published at 19. Died in Philadelphia, Aug. 26, 1859.

Moore, Sir John, a British military officer; born in Glasgow, Scotland, Nov. 13, 1761. Having obtained an ensign's commission in the 51st Regiment, he served at Minorca, in the American war, as Brigadier-General in the West Indies (1795), in Ireland during the rebellion of 1798, in Holland in 1799, and in Egypt in 1801. Moore was then regarded as the greatest living British general, and in 1805 he was knighted. In 1808 he was appointed commander-in-chief of the British army in Portugal to operate against Napoleon. He advanced to Salamanca in spite of the gravest difficulties, but was finally compelled to retreat to Corunna, a distance of 200 miles, in face of a superior force. The absence of a fleet to receive his army forced him to a battle against Marshal Soult, in which Moore fell, mortally wounded, in the hour of victory, Jan. 16, 1809.

Moore, Thomas, an Irish poet; born in Dublin, Ireland, May 28, 1779. From the school where Sheridan had been educated, he passed in 1794 to Trinity College, and thence, after taking his B. A., in 1799, to the Middle Temple, London. His translation of Anacreon, which came out in 1800, was dedicated to the Prince of Wales, his patron then, but the butt from 1813 of his satire. In 1801 followed the "Poetical Works of the late Thomas Little." In 1803 he was appointed registrar of the Admiralty court at Bermuda. He went there to arrange for a deputy, and after a tour in the United States and in Canada, returned in a year to England. In 1811 he married an actress, Bessy Dyke (1793–1865). In 1817 "Lalla Rookh" appeared. About this time his Bermuda deputy embezzled $30,000. Moore's liability was reduced by compromise to $5,000, which he ultimately paid by his pen; but in 1819, to avoid arrest, he went to Italy with Lord John Russell. He returned from abroad in 1822 to Sloperton; and here, except for occasional "junketings" to London, Scotland, and elsewhere, he passed his last 30 years. He died near Devizes, England, Feb. 25, 1852.

Moorish Architecture, that form of Saracenic architecture which was developed by the Moslem conquerors of Spain in building their mosques and palaces.

Moqui Indians, a semi-civilized people living in seven towns in Northern Arizona. The first accounts of them date from the expedition of Coronado in 1540. Their history is strikingly similar to that of the town-building Indians of the Territory of New Mexico, except that after a successful revolt against the Spaniards, in 1680, they remained independent. They are kind-hearted, hospitable, and cultivate the soil. The houses are built of stone, set in mortar, and for security are perched upon the summits of almost inaccessible mesas. They number about 1,600.

Moraine, in physical geography and geology, the debris of rocks brought into valleys by glaciers.

Moran, Edward, an American painter; born in Bolton, England, Aug. 19, 1829. He removed to Phila-

delphia in 1844; studied art and first exhibited in 1853. In 1862 he went to Europe, in 1869 took up his residence in New York, but in 1877 settled in Paris. He was noted as a marine painter, but in later years turned to figure painting. He died in New York city, June 9, 1901.

Moran, Thomas, an American painter, brother of E. Moran; born in Bolton, England, Jan. 12, 1837. Coming to the United States, he was apprenticed to an engraver at Philadelphia, and commenced painting water-color landscapes in 1856. He visited Europe in 1861. In 1871 he accompanied Prof. F. V. Hayden's expedition to the Yellowstone river, and in 1873 Major Powell's expedition to the Colorado river. As a result of these journeys he painted "F. V. Hayden's expedition to the Yellowstone," and "The Chasm of the Colorado," now in the Capitol at Washington.

Moravia, a N. W. province or crownland of the Austrian empire; area, 8,583 square miles; pop. (1900) 2,437,706. The chief towns are Brunn, Olmutz, Znaim, and Iglau. Moravia possesses a provincial diet with 100 members, and sends 36 deputies to the imperial diets. In 1029 Moravia was united to the kingdom of Bohemia, with which it passed to Austria in 1526.

Moravians, a religious sect, called at first Bohemians, and constituting a branch of the Hussites, who, when the Calixtines came to terms with the Council of Basel, in 1433, refused to subscribe the articles of agreement, and constituted themselves into a distinct body. Their tenets were evangelical. In 1522 they made advances to Luther, who partially recognized them, but they ultimately adopted Calvinistic views as to the Lord's Supper. Driven by persecution, they scattered abroad, and for a time their chief settlement was at Fulnek in Moravia, whence they were called Moravian Brethren, or Moravians. On May 26, 1700, was born Nicolaus Ludwig, Count von Zinzendorf, son of the chamberlain and state minister of Augustus II., Elector of Saxony and King of Poland. Having met with a Moravian refugee, who told him of the persecutions to which his sect was exposed in Austria, Count Zinzendorf offered him and his coreligionists an asylum on his estate. The man, whose name was David, accepted the offer, and in 1722 settled with three other men, at a place called by Zinzendorf Herrnhut (the Lord's guard). Under his fostering care, the sect greatly increased in strength. Till his death, on May 9, 1760, he traveled, largely spreading their views. Though they have never been numerous, yet in the latter part of the 18th century and the beginning of the 19th, they acquired great reputation from having a larger proportion of their membership engaged in foreign missions than any Christian denomination since apostolic times. In 1900, the denomination in the United States reported 118 ministers, 111 churches and 14,817 members.

Mordvins, a Finnic race, now however greatly intermingled with the Russians, who dwell along the middle course of the Volga, from the government of Nijni-Novgorod to that of Samara.

More, Paul Elmer, an American author; born in St. Louis, Mo., Dec. 12, 1864. He was instructor in Sanskrit and Greek at Bryn Mawr College.

More, Sir Thomas, an English statesman; born in London, England, Feb. 7, 1478. On the accession of Henry VIII. he was made undersheriff of London. In 1514 he was envoy to the Low Countries, soon after was made a privy-councillor, and in 1521 was knighted. In 1523 he became speaker of the House of Commons, and in 1529, succeeded Wolsey in the chancellorship. When Henry began his attacks on the papal supremacy More at once took up the position which his conscience dictated as a supporter of the old system. He was requested to take the oath to maintain the lawfulness of the marriage with Anne Boleyn. His refusal to do so led to his committal to the Tower, trial for misprision of treason, and execution, July 6, 1535.

Moreau, Jean Victor, a French general; born in Morlais, France, Aug. 11, 1761. He enlisted when he was 17 years old, and devoted himself to a military career. He was rapidly promoted during the first campaign of the wars of the French Revolution, and

in 1796 he was commander of one of the two French armies that invaded Germany. The other army, which was under General Jourdan, was completely defeated by the Austrians, who then brought their whole force to bear on Moreau. In this emergency, Moreau extricated himself by the retreat through the Black Forest, which is considered a masterpiece of military skill. Napoleon, in 1800, gave Moreau the command of the armies of the Danube and the Rhine. Moreau was afterward suspected of plotting against Napoleon's government and was banished from France. He lived in the United States till 1813, when he returned to Europe and joined the armies of the allied sovereigns against the French. He was mortally wounded at the battle of Dresden, Aug. 27, 1813, and died in Laun, Bohemia, Sept. 20.

Morelos, Don Jose Maria, a Mexican patriot; born near Apatzingan, Michoacan, Sept. 30, 1765. He joined the insurgent army under Hidalgo in 1810, and subsequently became leader of a band composed chiefly of negro slaves, with whom he carried on a successful guerilla warfare for a time against the Spaniards. He was made prisoner in 1815, and was executed near Mexico, Sept. 22.

Morgan, Daniel, an American military officer; born in New Jersey, in 1736. He took a prominent part in the expedition under Arnold against Quebec, 1775–1776; was in command of the riflemen at the battle of Saratoga, in 1777; and defeated the British under Tarleton at the Cowpens, S. C., in 1781. He died in Winchester, Va., July 6, 1802.

Morgan, John Hunt, an American military officer; born in Huntsville, Ala., June 1, 1825. He became famous as a dashing partisan soldier on the Confederate side during the Civil War. He rose rapidly to the grade of Brigadier-General, and made three successful raids through Kentucky, in 1862, but was captured in 1863, during his great raid through Indiana and Ohio. Escaping from the penitentiary at Columbus he continued active warfare till killed at Greenville, Tenn., Sept. 4, 1864.

Morgan, John Pierpont, an American capitalist; born in Hartford, Conn., April 17, 1837; was educated at the University of Gottingen, Germany. He returned to the United States in 1857, and became connected with the banking firm of Duncan, Sherman & Co. In 1871 he was made a partner of the firm of Drexel, Morgan & Co., which afterward became J. Pierpont Morgan & Co. He became widely known as an organizer of large railroad and industrial interests. In April, 1901, through his firm he created the largest financial concern known, the United States Steel Corporation. This company represents a combination of the Carnegie Steel Works and several other great steel concerns of the United States, with a capital of $1,100,000,000 and a working capital of $200,000,000. Mr. Morgan has been a large donor to charitable and educational institutions.

Morgan, John Tyler, an American lawyer; born in Tennessee, June 20, 1824. He studied law in Alabama, and was admitted to the bar in 1845; was presidential elector on the Breckinridge ticket in 1860; entered the Confederate service as a private in 1861 and was from time to time promoted for gallant and distinguished services; in November, 1863, was commissioned Brigadier-General, and commanded a division under Gen. Joseph E. Johnston. He was elected to the United States Senate from Alabama in 1877, and was reëlected in 1883, 1889, and 1895. He won popularity throughout the country by his able and eloquent speeches in behalf of Cuban independence, and for the maintenance of American interests and the promulgation of American principles in all parts of the world. He was appointed one of the commissioners to represent the interests of the United States in the Board of Arbitration to which was submitted the Bering Sea dispute.

Morgan, Lewis Henry, an American archæologist; born in Aurora, N. Y., Nov. 21, 1818. He was graduated at Union College in 1840; became a lawyer at Rochester; served in the State assembly (1861) and senate (1868). His earliest work, "The League of the Iroquois" was the first account of the organization and government of an Indian tribe. He died in Rochester, N. Y., Dec. 17, 1881.

Moriah, the hill on which the temple of Jerusalem was built.

Morley, Henry, an English writer; born in London, England, Sept. 15, 1822. He was educated at King's College; practised medicine in Shropshire and taught in Liverpool; and went to London as a journalist in 1851. His more important works are connected with the history of English Literature. He died May 14, 1894.

Morley, John, an English statesman and author; born in Blackburn, England, Dec. 24, 1838. He was educated at Cheltenham College, and afterward proceeded to Lincoln College, Oxford, where he graduated B. A. in 1859, M. A. in 1874. In 1873 he was called to the bar. He began his literary career as editor of "The Literary Gazette," and from 1867 till 1883 he edited the "Fortnightly Review." During 1880–1883 he was editor of the "Pall Mall Gazette," and in 1883–1885 of "Macmillan's Magazine." His political career began in 1869, when he successfully contested Blackburn in the Liberal interest. Since 1896 he has represented the Montrose burghs. Mr. Morley was one of the leading supporters of Mr. Gladstone's Home Rule policy, and in 1886 and 1892–1895 he was chief secretary for Ireland in Home Rule administrations.

Mormons, or **Latter Day Saints,** a religious sect in North America, founded by Joseph Smith, Jr., at Fayette, Seneca co., N. Y., in 1830. In 1823, claiming that he was led by the inspiration of an angel who had appeared to him, he claimed to have discovered golden plates on which the records of Mormon were alleged to be inscribed. These though found in 1823, he was not allowed by the angel to take up till 1827. They were inscribed with characters which were said to be reformed Egyptian but which he was unable to read. There was, however, in the box where they were found, so he declared, a marvelous instrument called Urim and Thumin, by which he was enabled to read the mysterious letters and translate them into English. In 1830 Smith published an English translation of the plates under the title "The Book of Mormon," together with certificates of 11 men who claimed to have seen the plates. This book tells in a language which imitates the Scriptures how at the time of King Zedekiah of Jerusalem, a pious Israelite by the name of Lehi, together with his family, migrated from Palestine to America and described on these plates the account of his marvelous adventures as well as the revelations which God vouchsafed to him. Many of his sons, like Laman, went out into the wilderness and became the ancestors and chiefs of the North American Indians. The descendants of his son Nephi became good Christians, many centuries before Christ, and among them were preserved the dignity of the priesthood and their sacred plates. To this family also appeared the Christ when He rose from the dead and He chose from the family 12 apostles who within a brief time converted the whole country to Christianity; but when at the beginning of the 4th century the Church, in consequence of wars, became disintegrated, Mormon, a mighty hero and pious Christian, rose and drove out the Lamanites who had in the meantime become red and fallen into barbarism. Nevertheless they returned about the year 400 and the Nephites perished before them. Mormon's son, Moroni, finished the history of his people in 420. The book was published in 1830.

The new prophet immediately began to collect followers about him, and by April 6, 1830, he had organized a church at Fayette, N. Y. The next year the sect numbered several hundred members and moved to Kirtland, O., where they increased in numbers and wealth through the efforts of missionaries who were sent out by the prophet. In 1833 they were driven from Jackson co., Mo., and took refuge in Clay county and the surrounding regions. In 1838, Governor Boggs of Missouri issued an exterminating order against the Latter Day Saints and they were driven out of that State. They went to Illinois, where by 1840 they founded the city of Nauvoo, over which Smith had extraordinary civil and military authority. The city flourished, soon numbering more than 2,100 houses and having a beautiful temple built according to plans which Smith claimed he had received in a vision. In 1844 a discontented mem-

ber of the Church issued a newspaper at Nauvoo assailing the prophet and threatening to expose various immoralities and misdeeds. It was destroyed by the officers of the law. Smith was blamed for this and a warrant was issued for his arrest. Before the civil war actually broke out, the governor of the State induced Smith to surrender and go to Carthage. On June 27, 1844, a mob attacked the jail, overpowered the guard, killed Smith and his brother Hiram and wounded others of the prophet's party. This did not put an end to Mormonism. Smith was succeeded by Brigham Young, who early in 1846, left Nauvoo with others. In the spring of 1847 a company of 143 started through the wilderness and on July 24, arrived at the valley of Salt Lake, which he declared was the promised land. It looked far from being the promised land when they got there. Irrigation was absolutely necessary. The first crop they planted was small and the second nearly destroyed by grasshoppers, but they pushed out into the valley, extending their agricultural operations, and made the wilderness blossom like the rose. They made Salt Lake their place of settlement and Young returned to Council Bluffs, where they had set up temporary headquarters, to bring the rest of the saints to Utah. Their new city became an important place on account of its position on the route of wagon trains to and from California, and owing to the wonderful discipline and management of the Mormons and to their system of irrigation, the wilderness, the soil of which was very fertile and needed only water, began to prove most productive, and the city to flourish. Brigham Young on account of his great influence was named governor of the territory, but in 1854 the government appointed Col. Steptoe as governor, and in 1857 A. Cumming and sent him with 2,500 men to Utah. The expedition met with difficulties on account of the late season of the year and opposition on the part of the Mormons to having an army sent against them. A peace commission was sent to Utah and the people who had already commenced to move away from their homes were induced to return. Young remained governor de facto during the Civil War, 1861–1865. Many missionaries were sent out and the number of Mormons increased with great rapidity. He died in 1877 and in 1880 John Taylor was elected president. He had been with Joseph Smith in Nauvoo and was shot and wounded when Smith was killed. He died in 1887 and in the same year was succeeded by Wilfred Woodruff, who was 80 years old, a most remarkable man, who preserved his faculties without impairment even beyond the age of 90. In 1890 he issued his famous manifesto forbidding polygamy. In 1896 Utah became a State and in the following year the 50th anniversary of the entering of the saints into that region, was celebrated. In 1898 President Woodruff died and the apostle Lorenzo Snow succeeded to the presidency of the Church. He also was a very old man, more than 85 years old, a friend of Joseph Smith, and an apostle in Nauvoo since 1849. President Snow died Oct. 10, 1901, and was succeeded by Joseph Fielding Smith, a nephew of Joseph the founder.

The membership of the Mormons is about 250,000 and there are flourishing communities in other countries besides the United States. Mormons express their belief in the Trinity, that men will be punished for their sins, that through the atonement of Christ mankind may be saved by faith, in repentance, in baptism, in the laying on of hands for the gift of the Holy Ghost. One of the characteristics of the Mormons has been a plurality of wives, which was regarded as a means of grace, the number of a man's wives and children increasing the man's chances of honor and glory in the world to come. After 1852 polygamy was preached and practised and the leading men generally were polygamists. In 1862 the Federal government enacted a law against the practice, but little attention was paid to it and not till 20 years later were severer statutes passed against it. In 1884 the constitutionality of the law was established by the supreme court of the United States and more than 1,000 men were convicted and sent to the penitentiary, while many of the leading polygamists fled or went into hiding. In 1887 the Mormon Church was disincorporated by Congress and its immense property was confiscated with the exception of $50,000. Fi-

nally in September, 1890, after the vast property holdings of the Church had been lost, President Woodruff issued his famous proclamation against polygamous marriages. In 1898 Brigham Henry Roberts was nominated for Congress but owing to a charge made against him that he was still living in polygamous relations, his case was submitted to a special committee which recommended that he be not allowed to take his seat in Congress. Salt Lake City, which is still the principal city of the Mormons is remarkable for its tabernacle, a building completed in 1867, 250 feet long, 150 feet wide, 80 feet high, without any supporting pillars, with a total seating capacity of 7,000. Its great organ and choral services, which are given there regularly by a choir of 600 voices are among the most remarkable features of the Mormon service. Another wonderful building in Salt Lake City is the Temple, which was begun in 1852 and dedicated in 1893.

Morny, Charles Auguste Louis Joseph, Duc de, a French statesman; born in Paris, France, Oct. 23, 1811. He is believed to have been the son of Queen Hortense and of the Comte de Flahault and half-brother of Louis Napoleon. Adopted by the Comte de Morny, he entered the army in 1832, and served with some distinction in Algeria; but he soon abandoned a military life, and in 1838 made his debut in the world of industry as a manufacturer of beet-root sugar. After the revolution of 1848 he became attached to the cause of his half-brother, and was the leader of the subtle and treasonable policy of the Elysee. He took a prominent part in the coup d'etat, and became minister of the interior. In 1854–1856, and again in 1857–1865, he was president of the Corps Legislatif, and was ambassador to Russia during 1856–1857, where he married the rich and handsome Princess Trubetskoi. He died in Paris, March 10, 1865.

Morocco, or **Marocco,** known to the natives as Maghreb-el-Aksa, "the farthest West," is an empire or sultanate which is confined to that part of Northwest Africa bounded on the E. (at the Wad Kiss) by Algeria, and on the S. by Cape Nun and the Wad Draa, though both here and on the Sahara side of the Atlas the limits of the empire are rather indeterminate. Area, about 219,000 square miles; pop. (1900) estimated at 5,000,000.

Morocco produces crops of the temperate and tropical zones. Wheat and barley are grown largely. Various gums, oranges, figs, almonds, lemons, and dates are among the other vegetable products. Cotton and hemp are grown for home consumption. Most European fruits grow well, and among other products sugar has been raised. Cattle are exported; but no animals can be sent out of the country without an imperial permit.

The inhabitants consist of six principal groups. (1) The Berbers or Kabyles, of whom the Amazigh, Shelluh, and Tuareg are only branches, are the aborigines. They inhabit for the most part the mountain regions, and are still only half subdued. (2) The Arabs are descendants of the invaders who came in the 7th century. (3) The Jews were very early settlers, semi-independent colonies still subsisting in the Atlas and the Sus country, though most of them in the towns are refugees driven out of Spain and Portugal. (4) A few thousands of Europeans, chiefly Spaniards, are almost entirely confined to the coast towns. (5) The "Moors," a term vaguely applied to all the Mohammedan inhabitants, are really Arabs with a large admixture of Spanish and other European bloods. (6) The Negroes, of whom there are large numbers, were brought from the Sudan as slaves.

The Sultan is one of the most perfect specimens of an absolute monarch existing. He receives and disposes of the entire revenue. All justice is bought and sold. Yet, owing to the religious fanaticism of the people, and the mutual jealousies of the European powers, whose representatives reside at Tangier, the political equilibrium is preserved. The only European nation which at present has any territory in Morocco is Spain, which maintains a fortress at Ceuta, and four convict settlements, and a fishing station at Ifni.

A passive resistance is offered to every improvement, and, though Christian slavery and piracy by government vessels have been abolished since

1817–1822 and foreign traders have nominally had access to all parts of the empire, the interior is not much different from what it was a thousand years ago.

Morocco (Arabian, Marakesch, by which name it is usually known among European residents), the S. capital of the empire of the same name; between 4 and 5 miles from the left bank of the Tensift, at the N. end of an extensive and fertile plain; 1,447 feet above the sea. It is surrounded by a lime and earth wall, more than 5 miles in circumference, between 20 and 30 feet high, and pierced by seven gates. Morocco possesses many mosques one of which, the Kutubia, has a tower after the model of the Hassan in Rabat and the Giralda in Seville, 320 feet high. The population varies according to the presence or absence of the Sultan, his court, and army. Morocco was founded in 1072 by the Emir Jusef ben Tachefyn, and reached the summit of its prosperity in the 13th century. In those days it is affirmed to have contained more than 700,000 inhabitants.

Moroni, Giovanni Battista, an Italian painter; born in Albino, near Bergamo, about 1510. Of the North Italians, Moroni ranks next to Titian, who greatly admired his portraits. He died Feb. 5, 1578.

Morpheus, in classical mythology, a minister of the god Somnus. He is sometimes called the god of sleep.

Morphine, or **Morphia,** the most important of the opium bases, discovered by Serturner in 1816. It is used to allay pain and is commonly used in hypodermic injections.

Morphology, that branch of natural science which treats of the laws, form, and arrangement of the structures of animals and plants, treating of their varieties, homologies and metamorphoses; the science of form.

Morphy, Paul Charles, an American chess-player; born in New Orleans, La., June 22, 1837. He was distinguished as being probably the most skillful chess-player that ever lived. He died in New Orleans, July 10, 1884.

Morrill, Justin Smith, an American legislator; long popularly known as "The Father of the Senate"; born in Strafford, Vt., April 14, 1810; in early life was a merchant; in 1848 retired from business to take up farming; in 1854 was elected to Congress as a Whig, and was reëlected five times. He prepared the tariff bill named after him, which has been, to a great extent, the model for all protective legislation. He was elected to the United States Senate in 1866 and was continuously a member of that body till his death, when he was the oldest member of the Senate and had been in continuous congressional service for 43 years. He died in Washington, D. C., Dec. 28, 1898.

Morrill, Lot Myrick, an American politician; born in Belgrade, Me., May 3, 1813; was governor of Maine in 1858–1860; United States Senator from that State in 1861–1876; and Secretary of the Treasury in 1876–1877. He died in Augusta, Me., Jan. 10, 1883.

Morris, Clara, an American actress; born in Toronto, Canada, in 1849; was taken to Cleveland, O., when an infant. She achieved prominence in emotional roles, and afterward made many tours throughout the United States.

Morris, George Pope, an American journalist; born in Philadelphia, Pa., Oct. 10, 1802. He died in New York city, July 6, 1864.

Morris, George Sylvester, an American writer on philosophy; born in Norwich, Vt., in 1840. He died in 1889.

Morris, Gouverneur, an American statesman; born in Morrisania, N. Y., Jan. 31, 1752. He was member of the Continental Congress; of the committee that drafted the Constitution; minister to France, 1792–1794; United States Senator from New York, 1800–1803. He died in Morrisania, Nov. 6, 1816.

Morris, Harrison Smith, an American poet; born in Philadelphia, Pa., Oct. 4, 1856; editor of "Lippincott's Magazine" from January, 1899.

Morris, Robert, an American financier, and a signer of the Declaration of Independence; born in Lancashire, England, Jan. 20, 1734. Coming to America at an early age, he embarked in mercantile business in Philadelphia, and rapidly acquired

wealth. On the outbreak of the Revolution, he took a prominent part in upholding the National cause. In 1775, he was elected to Congress, and in 1781 appointed Superintendent of Finance. He died in Philadelphia, Pa., May 8, 1806.

Morris, William, an English poet; born in Walthamstow, Essex, England, March 24, 1834. He was graduated at Oxford. He was a leader of the socialistic movement in Great Britain. He died in Hammersmith, England, Oct. 3, 1896.

Morris Island, a small island at the S. entrance to Charleston Harbor, S. C. During the Civil War it was occupied by Fort Wagner and other fortifications.

Morrison, Robert, an English missionary; born in Morpeth, England, Jan. 5, 1782. In 1807 he went out as a missionary for Canton. In 1814, having completed the issue of the New Testament in Chinese, he commenced, with the assistance of Dr. Milne, who had joined him in 1813, the translation of the Old Testament. Died in Canton, China, Aug. 1, 1834.

Morrison, William Ralls, an American legislator; born in Monroe co., Ill., Sept. 14, 1825; was educated at McKendree College; served in the Mexican War as a private; from 1852 to 1854 was clerk of the Circuit Court of Monroe county; in 1855 was admitted to the bar, and from 1854 to 1860 was a member of the Illinois House of Representatives, serving as speaker the last two years. During the Civil War he served in the Union army. He was elected to the 38th Congress; was defeated for reëlection, in 1870 and 1871 again served in the Legislature; in 1872 was elected to the 43d Congress, and served continually from Dec. 1, 1873, till March 3, 1887; was an Interstate Railroad Commissioner in 1887–1897, and chairman of the commission in 1891–1897.

Morrisonians, a religious body known also as the Evangelical Union, which was formed in Scotland in 1843. Their founder, the Rev. James Morrison, of Kilmarnock, was ejected from the United Secession Church for holding views contrary to the standards of that body. Mr. Morrison was soon after joined by several other ministers of the United Secession Church, and also by several of the Independents; and they formed themselves into a body. They now have upward of 40 churches in Scotland.

Morrison Observatory, an astronomical observatory at Glasgow, Mo., founded in 1874 by Miss Berenice Morrison. One of its directors, C. W. Pritchett, discovered the remarkable red spot on Jupiter.

Morrison, Harry Steele, author and lecturer; born Mattoon, Ill., Nov. 26, 1880; attended Mattoon High School, and private schools in New York and Chicago; at 15 he was working in Chicago; at 16 he started for Europe with only $25, working his way from place to place, and interviewing many notable persons, including Gladstone and Queen Victoria. Has since made several trips to Europe and one trip entirely around the world. Mr. Morrison, as "the Boy Traveler," lectured in the principal cities of America and England, describing his experiences in various parts of the world. He is the author of "A Yankee Boy's Success," "The Adventures of a Boy Reporter" and "How I Worked my Way Around the World," books descriptive of his travels.

Morro Castle, a Spanish fort at the entrance to the harbor of Havana, Cuba; its dungeons are said to have been the prisons of many convicted of political offenses. Also an imposing fortification on the cliffs overlooking Santiago Bay, Cuba. It was in sight of this fort and under fire of its guns that Lieutenant Hobson and seven men of the United States navy, on June 3, 1898, sank the "Merrimac" at the entrance to the harbor to prevent the Spanish fleet from escaping. On their capture, while attempting to regain their vessels, the men were imprisoned for some time in Morro, but were well treated by the Spaniards and subsequently exchanged.

Morse, Edward Sylvester, an American biologist; born in Portland, Me., June 18, 1838. He founded the Peabody Academy of Sciences, Salem, Mass., being its curator and president after 1881; was Professor at Bowdoin College; Professor at the Imperial University, Tokio, Japan, etc.

Morse, John Torrey, an American biographer; born in Boston, Mass., Jan. 9, 1840; was graduated at Harvard College in 1860; coeditor with Henry Cabot Lodge of the "International Review"; editor of the "American Statesman Series." He began life as a lawyer in Boston, Mass.

Morse, Mrs. Lucy (Gibbons), an American novelist; born in New York in 1839.

Morse, Samuel Finley Breese, an American inventor; born in Charlestown, Mass., April 27, 1791. He was educated at Yale College, where he devoted special attention to chemistry and natural philosophy. In 1829 he went to Europe for three years, and during the return voyage worked out roughly a plan for employing electro-magnetism in telegraphy. It was not till 1835, that he was able to exhibit an instrument that was found to work well. By July, 1837, this instrument was perfected, and ultimately in 1843 Congress granted him means to construct an experimental line between Washington and Baltimore. From that time Morse's instrument came into general use in the United States and Europe. In 1857 the representatives of 10 countries met at Paris, and voted him $80,000. He died in New York city, April 2, 1872.

Mortality, Law of, the statement of the average proportion of the number of persons who die in any assigned period of life or interval of age, out of a given number who enter on the same interval, and consequently the proportion of those who survive.

Mortar, or **Morter,** a vessel, generally in the form of a bell or conical frustrum, in which substances are pounded by a pestle. Also a calcareous cement. Short pieces of ordnance used to force shells at high angles, generally 45°, the charge varying with the range required.

Mortara, Edgar, a Jewish boy who, on June 22, 1858, was forcibly carried off from his parents by the orders of the Archbishop of Bologna, on the plea that he had, when an infant, been baptized into Christianity by a Roman Catholic maid-servant. The manner of the boy's abduction, and the refusal of the Roman Catholic authorities to give him up to his parents, becoming known throughout Europe, excited great indignation. But the boy remained in the hands of the Roman Catholic Church, and became an Augustinian monk.

Mortgage, in law, the conveyance of property as security for the payment of a debt or performance of a promise, and on the condition that if the debt be duly paid or the promises fulfilled the conveyance shall be void.

Mortification, the complete death of part of the body. It is generally the result of acute inflammation, but may be also an idiopathic disease.

Morton, Levi Parsons, an American financier; born in Shoreham, Vt., May 16, 1824. His father was the Rev. Daniel Morton. He showed an early preference for business pursuits, and at the age of 16 entered a country store. In 1849 he went to Boston, and, though possessed of little capital, was admitted as a partner in a prominent mercantile firm; five years later he removed to New York, and in 1863 established the banking house of Morton, Bliss & Co., with a branch in London under the name of Morton, Rose & Co. In 1878 he was elected to Congress and was reëlected two years later. On General Garfield's accession to the presidency he appointed Morton minister to France, where he served with credit till after the election of Cleveland to the presidency. In 1888 he was elected Vice-President on the ticket headed by Benjamin Harrison, and was governor of New York in 1894–1896.

Morton, Oliver Perry, an American statesman; born in Wayne co., Ind., Aug. 4, 1823; studied law and was admitted to the bar in 1847; elected governor of Indiana in 1861, and by his loyalty to the government did much to sustain the administration during the trying times of the Civil War. He was elected a United States Senator from Indiana as a Republican in 1867, serving till 1877, and in the latter year was a member of the Electoral Commission. He died in Indianapolis, Ind., Nov. 1, 1877.

Morton, Samuel George, an American naturalist: born in Philadelphia, Pa., Jan. 26, 1799; studied

medicine there and in Edinburgh, and in 1839 was appointed Professor of Anatomy in the Pennsylvania Medical College. Morton may be regarded as the first American who endeavored to place the doctrine of the original diversity of mankind on a scientific basis. He died in Philadelphia, Pa., May 15, 1851.

Morton, Sarah Wentworth (Apthorpe), an American poet; born in Braintree, Mass., Aug. 29, 1759. Died in Quincy, Mass., May 14, 1846.

Morton, William Thomas Green, an American dental surgeon, and the reputed discoverer of anæsthetics; born in Charlton, Mass., in 1819. In 1840 he commenced the study of dentistry in Baltimore, and two years later began to practise in Boston. In 1844, in the latter city, while engaged in experimental study, he discovered and introduced ethereal anæsthesia. It was first publicly tested on Oct. 16, 1846. He died in New York city, July 15, 1868.

Mosaic, a term applied to any work which exhibits a representation on a plane surface by the joining together of minute pieces of hard, colored substances, such as marble, glass, or natural stones united by cement (mastic), and serving as floors, walls, and the ornamental coverings of columns. Mosaic work is of Asiatic origin.

Mosasaurus, in palæontology, a gigantic marine lizard, now extinct. It is believed to have been at least 25 feet long.

Mosby, John Singleton, an American military officer; born in Powhatan co., Va., Dec. 6, 1833; was graduated at the University of Virginia, and became a lawyer. On the outbreak of the Civil War, he entered the Confederate service. In 1862–1865 he was colonel of the "Partisan Rangers," an independent cavalry command that did very effective work in cutting National communications, destroying supply trains, capturing outposts, etc. After the war he practised law at Warrentown, Va.; was United States consul at Hong Kong in 1875–1885; afterward practised law in San Francisco.

Moscow (Russian, Moskwa), the second capital of the Russian empire. It is the chief town of the government of the same name, and is situated in a highly-cultivated district on the Moskwa river, 400 miles S. E. of St. Petersburg, with which it is in direct communication by rail. The quarter known as the Kreml or Kremlin, on a height about 100 feet above the river, forms the center of the town, and contains the principal buildings. It is inclosed by a high stone wall, and contains the old palace of the czars and several other palaces; the Cathedral of the Assumption, founded in 1326, rebuilt in 1472; the Church of the Annunciation, in which the emperors are recrowned; the Cathedral of St. Michael; the Palace of Arms, an immense building occupied by the senate, the

MOSCOW MUSEUM.

treasury and the arsenal; and the Tower of Ivan Veliki (209 feet), surmounted by a gilded dome, and having at its foot the great Czar Kolokol, or king of bells, 60 feet round the rim, 19 feet high, and weighing upward of 192 tons, the largest in the world. Outside the Kreml the chief building is the Cathedral of St. Vassili, with no less than 20 gilded and painted domes and towers, all of different shapes and sizes. Among the principal educational establishments are the Imperial University, founded in 1755 by the Empress Catharine. It has a rich mu-

seum and a library of 200,000 volumes, and is the most important of the Russian universities. The foundation of the city dates from 1147. It became the capital of Muscovy, and afterward of the whole Russian empire; but was deprived of this honor in 1703, when St. Petersburg was founded. The principal event in the history of Moscow is the burning of it in 1812 for the purpose of dislodging the French from their winter quarters. The Emperor Nicholas II. and Empress Alexandra observed the ceremony of coronation in the Grand Kremlin in Moscow on May 26, 1896. The festivities were of unparalleled splendor and lasted for three weeks. Population, 988,614.

Moses (Egyptian mo, water, and use, saved), the son of Amram and Jochebed of the tribe of Levi; born in Egypt, during the rigor of the decree that commanded the death of every new-born male Israelite. To save her child from this cruel edict, his mother made an ark and placing the infant in this cradle, committed it to the river, in a place where she was aware that the daughter of Pharaoh was in the habit of bathing. Her daughter secreted herself among the reeds to note the effect of the stratagem. The princess, pitying the child thrown thus on her mercy, adopted the infant, gave it to the mother to nurse, and took charge of the child's future education and welfare; Moses became "learned in all the wisdom of the Egyptians." When he attained his 40th year, seeing an Egyptian officer ill-treating an Israelite, he killed the task-master, and hiding the body, fled into the wilderness, where he pursued the calling of a shepherd for 40 years, marrying the daughter of a priest of the people among whom he had found protection. While so employed, the Almighty appeared to him in the "burning bush," and commanded him to return to Egypt, and lead his people from the house of bondage. In obedience to this command, Moses eventually brought the Israelites out of Egypt, passed the Red Sea, and came within sight of the Promised Land; when, in consequence of the transgressions of the people, they were turned back, and condemned for 40 years to wander in the wilderness, till the whole generation of offenders had died. Moses was not allowed to enter the land of Canaan. Having seen the glorious country from the heights of Mount Pisgah, he died in his 120th year, on the confines of Canaan. Moses is considered the author of the first five books of the Old Testament. The Decalogue given through Moses, and many of the broader provisions of the Mosaic laws form the basis of all present moral and legal codes.

Moses, John, an American historian; born in Chippewa, Canada, Sept. 18, 1825; after 1837, a resident of Illinois. He was admitted to the bar in 1847. In 1874–1876 he was a member of the legislature. He wrote several historical works. He died in Chicago, Ill., July 3, 1898.

Mosque, a Mohammedan temple or place of worship. The design is not normal, and consequently the main form is not a settled one; but a mosque has three essential parts, which must never be wanting: these are the Mihrab, or Hall of Prayer; a place for the ablutions which precede prayer; and finally a large space for the entry and departure of the faithful, for the reading of the Koran and prayers. In this space are the maksura, or seat of the Caliph; as also a place for the preservation of the Koran, and finally the mimbar, a sort of pulpit. A further requirement is the minaret, a kind of tower, from which the iman calls the hour of prayer, and of which the larger mosques generally possess four or six.

Mosquito, the popular name of various two-winged insects, having a large proboscis, with which they attack man, sucking his blood. Mosquitoes abound in many parts of America and also in the tropical parts of the Eastern World, and are troublesome in the Polar regions. Various plans for their extermination have been devised, but without apparent result. They seem to diminish, however, with the filling up of marshes and pools.

Mosquito Coast, or **Reserve,** a maritime tract of Nicaragua, having E. the Caribbean Sea, and S. the river San Juan, which separates it from Costa Rica. The river Segovia, which enters the Caribbean Sea near Cape Gracias a Dios, is the boundary

with Honduras. Next the sea, the surface is low and broken by numerous lagoons, but gradually rises toward the interior. Mosquito Coast is inhabited by people of mixed Indian and African race. Mosquito Coast was discovered by Columbus in 1502, and appropriated by Spain. From 1655 to 1850 it was an English protectorate, but in 1860 was made over to Nicaragua. After being for some time under the protectorate of Great Britain the Reserve was reincorporated with the territory of Nicaragua and named the Department of Zelaya, Nov. 20, 1894.

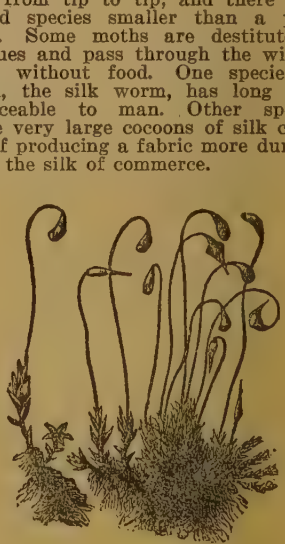
Mosquito Fleet, a term given to what is known among naval men as "the second line of defense." It is used in protecting the fortifications and harbors along the coast line, and, like the insect for which it is named, annoys the enemy in every way, at the same time preventing the possibility of a blockade. A fleet of this kind was organized during the Spanish-American War in 1898. For convenience the coast from the Canada line to Key West, and from there around the Gulf of Mexico to Rio Grande, was divided into eight districts, and each district was patrolled day and night by vessels in their turn.

Mosses, a class of small flowerless plants, important in the economy of nature, and of great interest in their

MOSS.

life history. They are found in all climates, but are most abundant in temperate regions and in damp places.

Moth, the popular name of a numerous and beautiful division of lepidopterous insects, readily distinguished from butterflies by their antennæ varying in form to a point instead of terminating in a knob, by their wings being horizontal when resting, and by their being seldom seen on the wing except in the evening or at night. Moths are comparatively larger than butterflies and more hairy or downy in character. There are thousands of species, differing greatly in color, form, size, habit and diet. The giant owl moth of Brazil measures nearly a foot from tip to tip, and there is a gilded species smaller than a pin's head. Some moths are destitute of tongues and pass through the winged state without food. One species of moth, the silk worm, has long been serviceable to man. Other species make very large cocoons of silk capable of producing a fabric more durable than the silk of commerce.



MOSS.

Mother Carey's Chicken, a name familiarly given by sailors to the stormy petrel and other small oceanic species of petrel. The name Mother Carey's Goose is, in like manner, given to the great black petrel or gigantic fulmar of the Pacific Ocean.

Mother-of-Pearl, in zoölogy and commerce, the internal layer of oyster and other nacreous or pearly shells. It is of silvery brilliance and iridescent. This is due to the alternate

layers of carbonate of lime and membrane.

Mother of Presidents, a name given to Virginia because that State has given six chief magistrates to the Union, namely: Jefferson, Madison, Monroe, Tyler, Harrison, and Washington.

Mother of States, a name given to Virginia, from the fact that out of the original Colony of Virginia were formed Kentucky, Ohio, Indiana, Illinois, and West Virginia.

Motherwort, a labiate plant, three feet high, flowers in crowded whorls, white with a reddish tinge, found in some parts of North America.

Motion, Laws of, three principles or axioms which were laid down by Sir Isaac Newton:

(1) If a body be started in motion, and if no force act upon it, that body will continue in motion in the same direction, and with the same velocity.

(2) Change of motion is proportioned to the acting force, and takes place in the direction of the straight line in which the force acts.

(3) To every action there is always an equal and contrary reaction; or, the mutual actions of any two bodies are always equal and oppositely directed in the same straight line.

Motley, John Lothrop, an American historian; born in Dorchester, Mass., April 15, 1814; was educated at Harvard University and Gottingen, Germany; entered political life as a member of the Massachusetts House of Representatives. He published, after 10 years' labor and a journey to Europe, his great "History of the Rise of the Dutch Republic" in 1856, a work which was further developed in the "History of the United Netherlands." He was minister from the United States to Austria, and to Great Britain. He died in Dorchester, England, May 29, 1877.

Motmot, the Mexican name of a bird resembling the bee-eaters. They are solitary birds, or living in pairs among the gloomy forests of the neotropical region. Their ordinary food is small reptiles, insects, and fruits.

Mott, Lucretia, an American reformer; born in Nantucket, Mass., Jan. 3, 1793. She was educated in the school where James Mott, whom she subsequently married, was a teacher, and early became interested in the movement against slavery. In 1818 she joined the Friends. In 1833 she assisted in the formation of the American Anti-Slavery Society, and in 1840 went to London as its delegate to the World's Anti-Slavery Convention. She was one of the four promoters of the Woman's Rights Convention in the United States, and was an active exponent of the cause of equal suffrage. She died in Philadelphia, Pa., Nov. 11, 1880.

Mott, Valentine, an American surgeon; born in Glen Cove, Long Island, N. Y., Aug. 20, 1785; studied in London and Edinburgh. Dr. Mott early gained a world-wide reputation for boldness and originality as an operative surgeon. He died in New York city, April 26, 1865.

Motte, Fort, a Revolutionary fort, on the Congaree river, S. C., about 33 miles below Columbia.

Mouflon, Moufflon, or **Mufflon,** a wild species of sheep, formerly common in Spain, now restricted to Corsica and Sardinia. It frequents the summits of hills, in small herds, headed by an old ram, and is not easily approached by the hunter.

Moulton, Louise Chandler, an American poet; born in Pomfret, Conn., April 10, 1835. She married William U. Moulton, a Boston publisher, and published children's stories, novels, essays, and poems.

Moultrie, Fort, a defensive work on Sullivan's Island, at the mouth of Charleston Harbor, S. C., celebrated for the repulse of a British squadron commanded by Sir Peter Parker, Jan. 28, 1776.

Moultrie, William, an American military officer; born in South Carolina, in 1731. He was of Scotch descent, his parents emigrating to South Carolina. In 1761 he commenced his career as captain in a militia regiment of infantry, raised for the defense of the frontier against the Cherokees. He was elected to the provincial congress in 1775, and was at the same time appointed colonel of the 2d South Carolina regiment. In 1776 he was designated to construct a fort, which afterward received his name, on Sullivan's Island, at the mouth of

Charleston harbor. The fort, which had 26 guns and 435 men, and was commanded by Moultrie, had been hastily built of palmetto logs, in two rows 16 feet apart, with the space between filled with sand. The British fleet attacked the fort before its completion, but were repulsed with great slaughter. Moultrie was soon after made brigadier of the Continental forces, and distinguished himself by the repulse of the British in their advance on Charleston, in 1779. In the spring of 1780 Charleston was again attacked, and Moultrie, who was second in command, shared in the capitulation of the American forces. He remained a prisoner two years, being exchanged in 1782, and was promoted a Major-General by Congress the same year. In 1785 he was elected governor of South Carolina, and again in 1794, after which he retired to private life. He died in Charleston, S. C., Sept. 27, 1805.

Mound Birds, a family of gallinaceous birds remarkable for the large mounds which they build as incubators for the eggs. They are natives of Australasia and of the islands in the Eastern Archipelago and Pacific.

Mound Builders, the name given to a prehistoric race, formerly inhabiting the Ohio and Mississippi valleys, who have left some very remarkable earthworks as their only memorials. The best known group of mounds is near Newark, O., and consists of elaborate earthworks, in the form of a circle, octagon, and square, enclosing an area of about 4 square miles, on the upper terrace between two branches of the Licking river. Scattered over the same plain, and crowning the neighboring hills, are numerous tumuli or mounds, evidently erected by the same people that built the larger works. The human remains found in these mounds are usually so much decayed as to preclude the recovery of a single bone entire. This fact has been regarded as evidence of the great antiquity of the mounds, since in England, where the moist climate is much less favorable for the preservation of such remains, perfect skeletons have been found after being buried 1,800 years. There is at present, however, a growing tendency to distrust the theory of their great age, as it is known that Southwestern Indians have built mounds within the historic period.

Mound City, St. Louis, Mo.; so named because in the vicinity are many of those artificial erections generally ascribed to the labors of the "mound builders."

Mountain, a large or very high hill; a large mass of earth rising to a great height above the level of the adjacent land; a high elevation or prominence upon the earth's surface; a high mount.

HIGHEST AND GREATEST MOUNTAINS IN THE WORLD.

Name.	Feet.
Antisana, Ecuador	14,300
Ararat, resting-place of Noah's Ark	12,700
Ben Nevis, highest in Great Britain, Scotland	4,400
Black Mountain, the highest of the Blue Ridge, N. C.	6,500
Blanc, Mont, France	15,900
Brown Mountain, highest of the Rocky Mountains	16,000
Chimborazo, Republic of Ecuador	21,400
Cotopaxi, the highest volcano, Ecuador	18,900
Dhawalaghiri, one of the Himalaya Mountains, Asia	25,500
Etna, a volcano in Sicily	10,900
Fremont's Peak, Rocky Mountains, Wyo	13,575
Geesh, Africa	15,100
Hecla, a volcano in Iceland	5,500
Hindu-Kush, Afghanistan	20,594
Himalayas (Mount Everest), highest in the world, Thibet	29,000
Humphrey Peak, Ariz	12,562
Hunchback Mt., Col	13,755
Hunt Peak, Col	14,055
Hurricane Peak, Col	13,565
Jungfrau, Alps, Switzerland	11,700
Kilima-Njaro highest in Africa	18,700
Lamotte Peak, Utah	12,892
La Plata Mt., Col	14,311
Lebanon, Syria	10,000
Leon Peak, Col	10,954
Lewiston Peak, Utah	10,623
Liberty Peak, Mont	9,162
Logan's Peak, Utah	10,004
Long's Peak, Col	14,271
Mansfield, highest of Green Mountains, Vt	4,275
Miltzin, highest of Atlas Mountains, Morocco	11,498
Mount Marcy, highest in New York	5,400
Mount Hood, Or	11,220
Mount St. Helen's, Wash	13,475
Mount Liedy, Wyo	11,177
Mount Logan	19,500
Mount McKinley, highest in North America	20,500
Mount Ranier, Wash	14,445
Mount Shasta, Cal	14,440
Mount Fairweather, Alaska	14,475

HIGHEST AND GREATEST MOUNTAINS IN THE WORLD.

Name.	Feet.
Mount Washington, Cal.	10,802
Mount Whitney, Cal.	14,885
Olympus, Greece	6,600
Ophir, Sumatra, East Indies	13,800
Orizaba, highest in North America, Mexico	18,170
Parnassus, the home of the Muses, Greece	6,000
Perdu, Mont, highest of the Pyrenees, France	11,300
Popocatapetl, Mexico	17,700
Peaks of Otter, Va.	4,250
Pike's Peak, Col.	14,215
Redslate Peak, Cal.	13,400
Round Top, highest of Catskill Mountains, N. Y.	3,800
Roa, Mount, highest in Oceania, Hawaii	17,500
Santa Clara Mountain, N. M.	11,507
Santa Fé Baldy Peak, N. M.	12,661
San Francisco Mountain, Ariz.	12,794
Sinai, Mount, Arabia	8,200
Sneehattan, highest Dovrefjeld Mountains, Norway	8,110
Sorota, highest in America, Bolivia	25,400
St. Bernard, Switzerland	8,000
St. Elias, Alaska	19,500
Stromboli, volcano in the Mediterranean Sea	3,000
Teneriffe, Peak, of, one of the Canary Isles	12,000
Vesuvius, volcano, near Naples	3,900
Washaku Needle, Ariz.	12,000
Washington, Mount, highest of White Mountains, N. H.	6,293

Mountain Ash, an American tree bearing beautiful red berries; also a European tree, 10 to 30 feet high. Wild in woods, on hillsides, chiefly in mountainous districts, and cultivated in gardens.

Mountain Railways, roads built especially for the ascension of mountains. The first example of this kind of road built in the United States was at Mauch Chunk, Pa., opened in May, 1827. It was first used to draw coal from the mines to the Lehigh river, the cars descending by gravity and being returned by mules. There is now a powerful stationary engine on the summit to draw up the train which is used exclusively for tourists. The Mount Washington Railway in the White Mountains, N. H., was begun in 1866 and opened in 1869. The track is of three rails, bolted to a heavy timber trestle, the cog-wheel which draws the train, running on the center rail. The seats are so suspended as to swing horizontally. The ascent is made in an hour and a half. The Otis Elevating Railway, in the Catskills, has an incline 7,000 feet in length, with a rise of 1,600. The road running from Manitou to the summit of Pike's Peak, Col., is 8 miles long, ascending 14,146 feet. This is, also, a cog-wheel road, and the engine pushes up, instead of pulling the cars. It was finished in 1890. Among other engineering feats of a similar kind in the Rocky Mountains should be classed the building of a road from Boulder to Ward and one over the Marshall Pass. Early in 1898, the aerial railway over the Chilkoot Pass to Lake Linderman was completed, shortening the time between tidewater and the headwaters of the Yukon river from a month to a day, and greatly reducing the hardships of the route. Switzerland offers several striking examples of mountain railways. In Italy there is a private road running up to the crater of Mount Vesuvius, near Naples. Darjeeling, India, a point commanding a very extensive range of view in the Himalaya Mountains, is reached by a road that in one place skirts the edge of a precipice 1,000 feet deep. The speed of the train does not exceed 7 miles an hour, and eight hours are spent in covering the entire distance, 58 miles.

MOUNTAIN ASH IN FLOWER.

Mountford, William, an American writer; born in Kidderminster, England, May 31, 1816; came to the United States in 1840. He died in Boston, April 20, 1885.

Mount Desert, a mountainous island in the Atlantic, belonging to Hancock co., Me., off the coast; was settled by the French in 1608. It is 14 miles long and 7 miles wide.

Mount Holyoke College, an educational, non-sectarian institution for women in South Hadley, Mass.; founded in 1837.

Mount McKinley, a mountain of the McKinley range, in Alaska. It is situated about 125 miles N. of Cook Inlet, and stands close to the intersection of the 63d parallel of N. latitude with the 151st meridian of W. longitude. Recent measurements made by the United States Geological Survey show this to be the tallest peak on the American continent, overtopping Mount St. Elias and Mount Logan by about 1,000 feet, its height being 20,500 feet. In a general way, the great height of Mount McKinley has always been known to the Indians and the scattering whites of that region, as its towering summit is plainly visible on clear days for a distance of 125 miles or more.

Mount Saint Mary's College, an educational institution in Emmitsburg, Md.; founded in 1808 under the auspices of the Roman Catholic Church.

Mount Union College, a coeducational institution in Alliance, O.; founded in 1846 under the auspices of the Methodist Episcopal Church.

Mount Vernon, the estate of President Washington, in Fairfax co., Va., on the right bank of the Potomac river; 15 miles S. of Washington. The dwelling is a wooden mansion, 96 feet long, erected on a bluff 200 feet above the river, and commanding an excellent view. The estate, originally named Hunting Creek and comprising 800 acres, was inherited by Washington in 1752 from his brother Lawrence, who had changed the name in honor of his former commander, Admiral Vernon of the British navy. The central part of the house was built by Lawrence, and the wings were added by George. The house and 200 acres of land around it were bought by the Mount Vernon Ladies' Association in 1859 for $200,000, raised in great part through the exertions of Edward Everett, and have been restored as nearly as possible to their condition in George Washington's lifetime. In ascending from the river to the house the visitor passes the plain, brick tomb of Washington, containing, behind an iron grating, two sarcophagi with the remains of the general and his wife, Martha. The home contains an abundance of interesting relics of which, perhaps, the key of the French Bastille is the most notable. The room in which Washington died is at the S. end of the first floor, and Mrs. Washington died in the one immediately above it. The coach house contains Washington's carriage, and in the garden are trees planted by his hands.

Mount Washington, a peak of the White Mountains, in Coos co., N. H.; about 85 miles N. by E. of Concord; height, 6,226 feet above sea-level, being not only the culmination of the White Mountains, but the highest land in New England.

Mouse-ear Chickweed, a genus of plants, consisting of many pubescent herbs with small leaves and white flowers, forming common weeds in all temperate and cold regions.

Mowbray, George W., an American inventor; born in Lewes, England, in 1815; educated for a chemist; came to the United States in 1853. He invented the commercial form of nitroglycerin, and used it in blasting for the Hoosac tunnel. Continued experiments resulted in his invention of a smokeless powder, and an improved method of insulating electric wires. He died in North Adams, Mass., June 21, 1891.

Mowis, the bridegroom of snow, who (according to American Indian tradition) wooed and won a beautiful bride; but when morning dawned, left the wigwam and melted into the sunshine.

Mozambique, the chief division of the possessions of Portugal on the E. coast of Africa. It lies between German East Africa on the N. and British East Africa on the S. and extends from Cape Delgado to Kose Bay, a point just below Delagoa Bay, a dis-

tance of 1,300 miles. The limits of this territory were defined by an agreement made between Great Britain and Portugal, and Germany and Portugal; the included area is about 300,000 square miles. The coast belt is low, swampy and unhealthy; but the interior rises into well-wooded plateaus having a fine climate. The forests yield valuable ornamental woods. The soil is naturally fertile, producing maize, rice, manioc, cotton, sesame, cocoanut, india-rubber and medicinal plants. The country is rich in minerals, coal, iron, silver, gold and copper being found there; and mines of the two last named are worked to some extent. There is a railway running from Delagoa Bay to the Transvaal frontier (whence it continues to Pretoria) and one farther S. that connects the coast with Salisbury, the capital of Rhodesia. The population of the colony is about 3,000,000. The administration is in the hands of a royal governor appointed for three years. Mozambique, the capital, stands on a small coral island lying close to the mainland.

Mozambique Channel, a waterway between Madagascar and the E. coast of Africa; about 1,000 miles long and 400 in average breadth.

Mozart, Johann Chrysostom Wolfgang Gottlieb, a German composer; born in Salzburg, Austria, Jan. 27, 1756. At the age of four he played the clavichord, and composed a number of minuets and other pieces still extant. When only six years of age his performances were so remarkable that his father took him and his sister, who possessed similar gifts, to Munich and Vienna, where they obtained every kind of encouragement from the Elector of Bavaria and the Emperor Francis I. In 1763 and 1764 the Mozart family visited Paris and London. At the age of seven young Mozart surprised a party of musicians, including his father, by taking part, at sight, in a trio for stringed instruments. Symphonies of his own composition were produced in a public concert in London; and while there he composed and published six sonatas, and made acquaintance with the works of Handel, recently deceased. Two years later, when but 12 years of age, he composed the music for the religious service and for a trumpet concert at the dedication of the Orphan House Church in Vienna, and conducted it in the presence of the imperial court. In 1769, at the age of 13, he was appointed director of the concerts of the Prince Archbishop of Salzburg. In Rome he reproduced from memory the "Miserere" which he had heard sung in St. Peter's. In 1787 he produced his masterpiece, "Don Juan," which was beyond the comprehension of the Viennese. To 1791, the last year of his short life, we owe "The Magic Flute," "Titus" and the sublime "requiem" composed in anticipation of death, and finished only a few days before his decease, which took place in Vienna, Dec. 5, 1791. His centenary was celebrated in 1891 all over Europe.

Mucilage, in ordinary language, a solution of gummy matter of any kind in water. In chemistry, the gum of seeds and roots.

Mud Bath, a bath in which the body is immersed in mud, often with chemical ingredients. At Eger, in Bohemia, boggy earth is artificially converted into black mud, heated to 100° of temperature. The body is immersed for 15 minutes, after which the patient goes into water to remove the mud.

Mudfish, the sole species of the family Amiidæ. It attains a length of about two feet; it feeds on fluviatile crustacea, and is sometimes eaten by the Indians. It is limited to rivers and lakes of the United States, abundant between the Rocky mountains and the Alleghanies.

Mudir, a Turkish official at the head of a canton or part of a liva under a kaimakam; in Egypt, the governor of a province.

Muggletonians, a sect founded by Lodowick Muggleton, London. When about 40 years old began to have visions and to hear "voices," and asserted that he and John Reeve, another tailor, were the two witnesses mentioned in the Revelation (xi: 3). "The Divine Looking Glass" was published in 1656 as an exposition of their teachings.

Mugwump, a political term coined during the heated presidential campaign of 1884 between Grover Cleve-

land and James G. Blaine. It was applied to such members of the Republican party as refused to support their party nominee. The word belongs to the Algonquin dialect of the Indian languages of North America.

Muhlenberg, William Augustus, an American clergyman; born in Philadelphia, Pa., Sept. 16, 1796. From 1846 to 1877 he was rector of the Church of the Holy Communion, New York. His time was largely given to educational work and the amelioration of the condition of the poor. Among his writings are: "I Would Not Live Alway," the story of the hymn which made his name immortal. Died in New York, April 8, 1877.

Muhlenberg College, an educational institution in Allentown, Pa.; founded in 1867 under the auspices of the Lutheran Church.

Muir, John, an American scientist; born in Dunbar, Scotland, April 21, 1838; educated in Scotland and at the University of Wisconsin. When a young man he was nearly blinded, while working in a carriage factory. Despairing of regaining his sight, he set out to see as much of the world as possible before becoming totally blind. For 25 years he wandered from the Gulf of Mexico to the glaciers of Alaska. In 1879 he discovered the famous Alaska glacier which bears his name. He was a member of the relief expedition sent to the Arctic regions on the United States steamer "Corwin." He wrote over 150 articles on the physiography and natural history of the Pacific coast, Alaska, etc.

Mulatto, a person that is the offspring of parents of whom one is white and the other is a negro. The mulatto is of a dark color tinged with yellow, with frizzled or woolly hair, and resembles the European more than the African.

Mulberry, a genus of trees, natives of temperate and warm climates. The fruits of the several species are eatable. The white mulberry is the one most frequently used for feeding silkworms. It has a sub-acid succulent fruit; the black mulberry is also used for silkworms.

Mule, a term loosely used as synonymous with hybrid, more usually applied to the produce of a male ass with a mare, the mule proper, and to the hinny, the offspring of a stallion and a she-ass. The mule does not attain maturity as soon as the horse, but is useful a much longer period. As a beast of burden it is in some respects preferable to the horse; it is easily fed, is equally good for carrying and drawing, its less sensitive skin enables it to support exposure to the weather; like the ass, it enjoys comparative immunity from disease, and it is as surefooted as a goat. Mules have been known from the earliest ages. Female mules rarely produce living offspring, and the same statement applies to hybrids generally.

In botany, a hybrid; a cross between two distinct species. They are produced by the application of the pollen of one to the stigma of the other. Mules between two different genera are called bigeners. They are rarely obtained. In farriery, a disease in horses. In spinning, a spinning machine in which the rovings are delivered from a series of sets of drawing rollers to spindles placed on a carriage, which travels away from the rollers while the thread is being twisted, and returns toward the rollers while the thread is being wound. It was invented by Samuel Crompton, of Bolton, England, and perfected in 1779.

Mulford, Elisha, an American clergyman; born in Montrose, Pa., Nov. 19, 1833. He wrote "The Nation," and "The Republic of God," two works of great elevation of thought and expression. He died in Cambridge, Mass., Dec. 9, 1885.

Mulford, Prentice, an American journalist; born in Sag Harbor, N. Y., in 1834. He was settled in New York and afterward in San Francisco. He died in Sheepshead Bay, N. Y., in May, 1891.

Mullagatawny, a soup which is made with fowl or meat cut into small pieces and mixed with rice, curry powder, etc.

Mullein. The common mullein growing in old fields, roadsides, etc., is a tall rough plant. The flowers are yellow, almost sessile, and are disposed in a long cylindrical spike.

Muller, Friedrich Max, a German philologist; born in Dessau, Ger-

many, Dec. 6, 1823; son of Wilhelm Muller, the German poet. He was a most engaging lecturer, being able to impart rare interest by his clear and brilliant style. He was the author of "A History of Ancient Sanskrit Literature," "On the Origin and Growth of Religion as Illustrated by the Religions of India," etc. He died in Oxford, England, Oct. 28, 1900.

Muller, George, a British philanthropist; born near Halberstadt, Prussia, Sept. 27, 1805. In 1835 he printed proposals for the establishment of an Orphan Home, which took shape in 1836 at Bristol. By 1875 upward of 2,000 children were lodged, fed, and educated, and $3,750,000 had been received in donations. Muller visited Europe, America and Asia on evangelistic tours. He died in Bristol, England, March 10, 1898.

Muller, Johann, a German physiologist; born in Coblentz, Prussia, July 14, 1801. In 1833 he published his great work, "The Physiology of Man," which was soon afterward translated into French and English. Muller founded the physico-chemical school of physiology, raising it from a speculative to a positive science, and reformed the theory of medicine. His 100 publications embrace nearly every subject in comparative anatomy and physiology. He died in Berlin, April 27-28, 1858.

Muller, Johannes Von, a Swiss historian; born in Schaffhausen, Switzerland, Jan. 3, 1752. From 1774 to 1780 he lived in Geneva, taught there, and wrote his "Universal History," and published the first volume of his "History of the Swiss." In 1786 he became librarian and councillor of state to the Elector of Mainz, and began the publication of his larger "History of the Swiss League." In 1792, when Mainz was taken by the French, he went to Vienna, where the Emperor Leopold nominated him a member of the privy-council; but in 1804 he left Vienna for Berlin, where he was appointed historiographer of the Hohenzollern family. Introduced to Napoleon after the battle of Jena, he was appointed by him (1807) secretary of state in the new kingdom of Westphalia; but died in Cassel, May 29, 1809.

Muller, Otto Frederick, a Danish naturalist; born in Copenhagen, in 1730. He died in 1784.

Mullet, name of fishes distinguished as red and gray mullets. Red mullets are ground feeders, using their barbels in discovering their food. They are brilliantly colored, and as food fish should claim the attention of pisciculturists. The gray mullet is plainly colored, greenish on the upper parts, and more or less silvery on the sides.

Mullion, a vertical division between the lights of windows, screens, etc., in Gothic architecture, mullions are rarely found earlier than the Early English style. The term is also applied to the division between the panels in wainscoting.

Multiple, in arithmetic and algebra, a number which contains another number an exact number of times without any remainder; thus, 20 is a multiple of 5.

Mumbo Jumbo, an African bogie, hideous and malignant, the terror of negro women.

Mummy (by some derived from the Arabic momia, or the Coptic mum, bitumen or wax), the dead body of an Egyptian preserved by embalming. Owing either to the religious opinions of the Egyptians, or to the nature of the country, they embalmed all their dead, and deposited them in subterranean chambers or in grottoes excavated in the mountains. An immense number of them have been found in the plain of Saccara, near Memphis — hence called the plain of the mummies — consisting not only of human bodies, but of various animals, or heads of animals, bulls, apes, ibises, crocodiles, fish, etc. The sepulchral chambers are almost entirely covered with fresco paintings and bas-reliefs, and frequently contain statues, vases, etc. Some of them (the royal sepulchers) consist of suites of spacious halls and long galleries of magnificent workmanship. Those of private individuals vary according to the wealth of the deceased, out are often very richly ornamented. Many of these tombs have been ransacked by Arabs for the purpose of plunder, and great numbers of the mummies destroyed for the resin or asphaltum they contain, which is sold to advantage in Cairo.

The tombs of mummies are, many of them, 2,000 or 3,000 years old. The processes for the preservation of the body were various. Those of the poorer classes were merely dried by salt or natron, and wrapped up in coarse cloths, and deposited in the catacombs. The bodies of the rich and the great underwent the most complicated operations, and were laboriously adorned with all kinds of ornaments. Embalmers of different ranks and duties extracted the brain through the nostrils, and the entrails through an incision in the side; the body was then shaved, washed, and salted, and after a certain period the process of embalming properly speaking, began. The whole body was then steeped in balsam and wrapped up in linen bandages; each finger and toe was separately enveloped, or sometimes sheathed in a gold case, and the nails were often gilded. The bandages were then folded around each of the limbs, and finally around the whole body to the number of 15 to 20 thicknesses. The head was the object of particular attention; it was sometimes enveloped in several folds of fine muslin; the first was glued to the skin and the others to the first; the whole was then coated with a fine plaster. A collar of cylindrical glass beads of different colors is attached to the masks which cover the head, and with it is connected a tunic of the same material. The beads, both in the collar and tunic, are so arranged as to form images of divinities, of the scarabæus, the winged globe, etc. Instead of this the mummy is sometimes contained in a sort of sheath, made of paper or linen, and coated with a layer of plaster, on which are paintings and gilding. These paintings represent subjects relating to the duties of the soul, its presentation to the different divinities; and a perpendicular hieroglyphical inscription in the center gives the name of the deceased, and of his relations, his titles, etc. The whole is then placed in the coffin.

Mummy Wheat, a variety of wheat said to have been produced from grains found in an Egyptian mummy. It has long been in general cultivation in Egypt and neighboring countries in Africa. The spike is compound.

Mumps, a contagious disease communicated by the saliva, sometimes epidemic, and characterized by a specific swelling and inflammation in the parotid and salivary glands, commonest in children.

Munch-Bellinghausen, Baron Eligius Franz Joseph von, better known as Friedrich Halm, an Austrian dramatist; born in Cracow, April 2, 1806. He studied law, and held various official positions at Vienna. He wrote: "The Son of the Wilderness," well known in America under the title "Ingomar"; "The Fencer of Ravenna," perhaps his best work, etc. He died in Vienna, May 22, 1871.

Munchausen, Baron Hieronymus Karl Friedrich von, a German-Russian military officer; born in Bodenwerder, Hanover, May 11, 1720. He died in Bodenwerder, Feb. 22, 1797. A compilation of his prodigious "yarns" was published in London in 1785, under the title of "Baron Munchausen's Narrative of His Marvellous Travels and Campaigns in Russia," and was followed by two later editions.

Munday, Anthony, an English writer; born in London, England, in 1553. He wrote a large number of plays, generally in collaboration with Chettle, Drayton, Wilson, Dekker, Webster, and others. His prodigious activity in literature and affairs makes him one of the most notable characters of his time. He died in London, in August, 1633.

Munde, Paul Fortunatus, an American gynecologist; born in Dresden, Saxony, Sept. 7, 1846; came to the United States in 1849. He entered the Union army and served as acting medical cadet during a part of 1864. He was graduated at Harvard Medical School in 1866; then went to Germany; enlisted as an assistant surgeon in the Bavarian army; and served throughout the war, receiving the Iron Cross from the emperor for his heroism in removing the patients from a burning hospital on the outskirts of Paris. In 1873 he returned to the United States, settled in New York city, and applied himself to the specialties of gynecology and obstetrics. He was editor of the "American Journal of Obstetrics" in 1874–1892; one of the founders of the American Gynecological Society; president of the New York Obstetrics Society in 1886–1893;

president of the American Gynecological Society in 1897–1898; and a member of other medical societies. He died in New York city Feb. 7, 1902.

Munger, Theodore Thornton, an American clergyman; born in Bainbridge, N. Y., March 5, 1830. He was graduated at Yale in 1851, and at Yale Theological School in 1855. After 1885 he was pastor of the United Church, New Haven, Conn. He was a Congregational leader in his State; and active in municipal reform. He published: "On the Threshold"; "The Freedom of Faith," etc.

Munich (German Munchen), the capital city of Bavaria, on an extensive plateau, about 1,700 feet above sea-level, chiefly on the left bank of the Isar. The old town has a quaint and irregular character, but the new town, which has sprung up chiefly to the N. and W., has a regular and imposing appearance, and altogether Munich is one of the finest towns in Germany. The royal palace forms a very extensive series of buildings chiefly in the Italian style, and contains many magnificent apartments and rich artistic and other treasures. The royal library (occupying a fine building in the Florentine style) has upward of 1,000,000 volumes and 30,000 MSS., being thus one of the largest in Europe. The university had in 1899–1900, 194 professors and teachers, and 4,257 students in theology, jurisprudence, medicine and philosophy, together with a library of over 300,000 volumes. The industries are numerous, and in some particular branches have acquired a high name. Among others may be mentioned painted glass and other artistic productions, mathematical, optical, and surgical instruments, gold and silver lace, jewelry, glass, carriages, bells, musical instruments, etc. Munich is the seat of the high courts of legislature and of law, and of all the more important offices of the state. It was founded by Henry, Duke of Saxony, in 962; taken by Gustavus Adolphus in 1632, by the French under Moreau in 1800, and by Napoleon in 1805. Pop. (1900) 499,959.

Munjeet, or **Munjeeth,** also called East India madder, which is extensively cultivated in India. Its root furnishes a dye-stuff yielding colors somewhat similar to those of madder, but they are feeble, which renders it inferior to the latter.

Munkacsy, Michael, a Hungarian painter, whose real surname was Lieb; born in Munkacs, Hungary, Oct. 10, 1846. In 1872 he settled in Paris. He visited New York in 1886. Except a few portraits, his works are nearly all genre pictures. He died in Bonn, Germany, May 1, 1900.

Munkittrick, Richard Kendall, an American poet; born in Manchester, England, March 5, 1853. He was on the editorial staff of "Puck," New York, 1881–1889.

Munroe, (Charles) Kirk, an American writer; born in Wisconsin, Dec. 15, 1856. He made Florida his home. He wrote: "The Flamingo Feather"; "At War with Pontiac"; "Under the Great Bear" (1900); etc.

Munsey, Frank Andrew, proprietor of the New York "Daily News" and of "Munsey's Magazine," etc.; born Mercer, Maine, Aug. 21, 1854; was manager in youth of the Western Union Telegraph Office, Augusta, Maine; came to New York, where he founded the "Argosy," "Munsey's Magazine," and other successful publications, and acquired in September, 1903, full ownership of the New York "Daily News," of which he had been chief proprietor for nearly two years previous. Is author of "Afloat in a Great City" and other books.

Muntjac, or **Muntjack,** a genus of deer, indigenous in the S. and E. parts of Asia and the adjacent islands. They are diminutive animals.

Munzer, Thomas, a leader of the Anabaptists, born in Stolberg, in the Harz, about 1489. He studied theology, and in 1520 began to preach at Zwickau. His Christian socialism and his mystical doctrines soon brought him into collision with the Reformers and the town authorities. Deprived of his office, he visited Nuremberg, Basel, and other S. German cities, and was finally in 1525 elected pastor of the Anabaptists of Muhlhausen, where he won the common people, notwithstanding Luther's denunciations of him, introduced his communistic ideas, and soon had the whole country in insurrection. But

on May 15, 1525, he and his men were totally routed at Frankenhausen by Philip of Hesse. Munzer himself was captured in flight and executed in Muhlhausen, Prussian Saxony, May 30, 1525.

Murad V., Sultan of Turkey; born Sept. 21, 1840. He was son of Abdul-Medjid, and he succeeded to the throne on the forcible deposition of Abdul Aziz, Aug. 31, 1876, but was deposed in the course of the same year on account of insanity, and was succeeded by his younger brother Abdul Hamid II.

Muræna, in ichthyology, the typical genus of the family Murænidæ. Scaleless; the teeth well developed. Gill openings and clefts between the branchial arches narrow. No pectorals; dorsal and anal fins well developed. Two nostrils on each side of the upper surface of the snout. Eighty species are known, from the tropical and subtropical zones. One from the Indian seas attains a length of 10 feet and has the tail twice as long as the body.

Mural Crown, the corona muralis of the Romans; a wreath, chaplet, or crown of gold, indented and embattled, given by the Romans to the soldier who first mounted a breach in storming a town.

Mural Decoration, the embellishment of walls. It dates from very ancient times. American public and private buildings afford some splendid examples.

Murat, Joachim, a French military officer; born in Bastide, Lot, France, March 25, 1771. The Directory made him chief of brigade, and in 1796 he accompanied Bonaparte to Italy as aide-de-camp. Here he distinguished himself by his impetuous courage as a cavalry officer, and was employed as a diplomatist at Turin and at Genoa. He followed Napoleon to Egypt, where he decided the victory over the Turks at Aboukir, and returned as General of Division. In 1800 he married Marie Caroline, Napoleon's younger sister; and in 1804 Murat was made Marshal, Grand Admiral, and Prince of the French empire. His services in the campaign of 1805 against Austria, during which he entered Vienna at the head of the army, were rewarded with the grand-duchy of Berg. He continued to share Napoleon's victories with such distinction, that, in 1808, the emperor placed him on the throne of Naples. After reigning peaceably four years, he was called to accompany Napoleon to Russia, as commander-in-chief of his cavalry; and, after the defeat of Smolensk, he left the army for Naples. He next took part with Napoleon in the fatal campaign of Germany; but, after the battle of Leipsic, he withdrew, and finding that the throne of the emperor began to totter, concluded an alliance against him. In 1815, however, he again took up arms, and formed a plan to make himself master of Italy as far as the Po, at the very time that Austria and the allies, on his repeated assurances that he would remain true to them, had determined to recognize him as King of Naples. It was too late. Austria, therefore, took the field against him, and he was soon driven as a fugitive to France. After the overthrow of Napoleon he escaped, in the midst of continual dangers, to Corsica, from which he sailed with a few adherents to recover his lost throne. A gale, off the coast of Calabria, dispersed his vessels, but Murat determined to go on shore. He was seized, and carried in chains to Pizzo, brought before a court-martial and condemned to be shot. This sentence was executed Oct. 13, 1815.

Murat, Napoleon Achille, a French-American author; born in Paris, France, Jan. 21, 1801. He was son of Joachim Murat, King of Naples, and hence Prince of the Two Sicilies. Coming to the United States in 1821, he settled at Tallahassee, Fla., where he was mayor 1824, and postmaster 1826–1828. He wrote in French "Essays Moral and Political on the United States of America"; "Exposition of the Principles of Republican Government as Perfected in America," the latter running through over 50 editions. He died in Nasceissa, Fla., April 15, 1847.

Murchison, Sir Roderick Impey, an English geologist; born in Tarradale, Ross-shire, Scotland, Feb. 19, 1792. The term "Silurian System," which is the name of his first great work, was first used by him. In 1854 he produced "Siluria; the

History of the oldest known Rocks containing Organic Remains, with a Brief Sketch of the Distribution of Gold over the Earth." In 1855 he was appointed Director-General of the Geological Survey of Great Britain and Director of the Metropolitan School of Science applied to Mining and the Arts. He died Oct. 22, 1871.

Murder, homicide with malice aforethought; the unlawful killing of a human being by a person of sound mind, with premeditated malice. Murder is divided into various degrees, such as murder in the first degree, which is punishable by death in most of the States of the Union, and lesser degrees punishable by various terms of imprisonment. The crime is modified in law also by the terms manslaughter and homicide.

Murdoch, William, a Scotch inventor; born near Auchinleck, Ayrshire, Scotland, Aug. 21, 1754. At Redruth, in 1784, he constructed a model high-pressure engine to run on wheels, the precursor of the modern steam locomotive; a year later he invented the oscillating engine, the system of which is still in use; and the rotary engine with sun-and-planet circular motion is also his invention. In 1803 he constructed a steam gun; and some time later produced the well-known cast-iron cement made of iron borings and sal-ammoniac. In 1815 he introduced the hot-water apparatus which, with certain slight modifications, is now extensively used for heating large buildings and conservatories. But his work as a gas inventor remains his most conspicuous achievement. In 1792 he first lighted his offices and cottage at Redruth with coal gas, but it was not till 1798 that he constructed his first extensive apparatus at Birmingham for the making, storing, and purifying of gas. He retired from business in 1830, and died in Birmingham, England, Nov. 15, 1839.

Murex, plural **Murices,** a shellfish of world-wide distribution, of which 180 species are known. The canal is produced to twice the length of the body of the shell, and fringed with three rows of long, slender spines, curved like the teeth of a harrow. The celebrated Tyrian purple was obtained from a species of Murex.

Murfree, Mary Noailles, pseudonym Charles Egbert Craddock, an American novelist; born in Murfreesboro, Tenn., Jan. 24, 1850. Her subjects deal largely with Tennessee.

Murillo, Bartolomeo Esteban, the greatest of all the Spanish painters; born in Seville, Spain, Jan. 1, 1618. In 1646 he finished painting the little cloister of St. Francis; and the manner in which he executed it produced the greatest astonishment among his countrymen. His picture of the "Death of Santa Clara," and that of "St. James Distributing Alms," crowned his reputation. In the first he showed himself a colorist equal to Vandyke, and in the second a rival of Velasquez. They obtained him a multitude of commissions, which procured him an independent fortune. He enriched the churches and convents of Seville and other cities with numerous works. Having been invited to Cadiz to paint the grand altar of the Capuchins, he there executed his celebrated picture of the "Marriage of St. Catharine." As he was about to finish it he injured himself severely by a fall from the scaffolding, and died soon after from the effects of the accident, in Seville, April 3, 1682.

Murphy, Henry Cruse, an American journalist and historical writer; born in Brooklyn, N. Y., July 5, 1810. He was a lawyer by profession; was minister to The Hague 1857–1861. He wrote: "Henry Hudson in Holland"; "Anthology of the New Netherlands"; etc. He died in Brooklyn, N. Y., Dec. 1, 1882.

Murray, the largest river in Australia, rising in the Australian Alps about 36° 40′ S. and 147° E., its source being partly in New South Wales, partly in Victoria. It flows for a long distance W., forming the boundary between the two colonies, then passes into South Australia, where it takes a S. direction, and falls into the sea through a large shallow sheet of water called Lake Alexandrina.

Murray, James Augustus Henry, a British lexicographer; born in Denholm, Roxburghshire, Scotland, in 1837. He has long been compiling "A New English Dictionary on Historical Principles." The aim of this dictionary is to furnish an adequate account of the meaning, origin, and

history of English words. Its purpose is "not to dictate to usage, but to record usage."

Murray, James Stuart, Earl of, Regent of Scotland, the natural son of James V. by Margaret, daughter of Lord Erskine, born in 1533. At five years of age his father made him Prior of St. Andrews, and he was long known by that title. He became a warm supporter of the Reformers. On the return of Mary to Scotland as queen, Murray became her chief adviser, and was created first, Earl of Mar, and then Earl of Murray. He was opposed to the queen's marriage with Darnley. He remained out of Scotland for some months, in 1567, only returning on the accession of James VI. He saw his sister a captive in Lochleven Castle, and was soon after named regent. Mary having escaped and taken arms, he encountered and defeated her at Langside, in 1568, and was one of the witnesses against her on her trial. The Regent Murray fell by the shot of an assassin in Linlithgow, Jan. 21, 1570.

Murray, John, founder of Universalism in the United States; born in Alton, Ill., Dec. 10, 1741; died in Boston, Mass., Sept. 3, 1815.

Murray, John Clark, a Canadian educator; born in Paisley, Scotland, March 19, 1836. He became Professor of Mental and Moral Philosophy in McGill University, Montreal.

Murray, John O'Kane, an American historian; born in Glenariffe, County Antrim, Ireland, Dec. 12, 1847. His most notable work was a "Popular History of the Catholic Church in the United States." He died in Chicago, Ill., July 30, 1885.

Murray, Lindley, an American grammarian; born in Swatara, Lancaster co., Pa., April 22, 1745. He received his primary education in Philadelphia in the academy of the Society of Friends. He left his father and taking up his abode in a school at Burlington, N. J., there contracted a love of books and study. He afterward studied the law. His "English Grammar," which so long held its ground, and has passed through an immense number of editions, appeared in 1795. He died in Holdgate, England, Feb. 16, 1826.

Murray, Nicholas, pseudonym, Kirwan, an American clergyman and author; born in Ireland, Dec. 25, 1802. He was settled at Elizabeth, N. J. He died in Elizabeth, N. J., Feb. 4, 1861.

Murray, William Henry Harrison, an American writer; born in Guilford, Conn., April 26, 1840.

Musca, in astronomy, the bee; one of Lacaille's revised S. constellations, called by Bayer, Apis. It is situated between Cruz and the South Pole. No star in it is above the fourth magnitude.

Muscle and Muscular Tissue, tissue specially distinguished by its contractile power, the instrument by which all the sensible movements of the animal body are performed.

Muscular Christianity, a term introduced by Charles Kingsley to denote that robust, healthy, religious feeling which encourages and takes an active part in the harmless and healthy amusements of life, as opposed to a puritanical, ascetic, or contemplative form of religion.

Muse, in mythology, one of nine nymphs or inferior divinities, distinguished as the peculiar protectresses of poetry, painting, rhetoric, music, and generally of the belles-lettres and liberal arts. They were the daughters of Zeus and Mnemosyne. Originally there appear to have been only three of these divinities, and their names, Mneme, Melete, and Aœde, or Memory, Reflection, and Song, sufficiently show the nature of the faculties over which they were supposed to preside. Additions were made to their number, which ultimately was fixed at nine, their names and functions being: Clio, the muse of History; Euterpe, of Lyric Poetry; Thalia, of Comedy and Idyllic Poetry; Melpomene, of Tragedy; Terpsichore, of Music and Dancing; Erato, of Erotic Poetry; Calliope, of Epic Poetry; Urania, of Astronomy; and Polyhymnia, or Polymnia, of singing and harmony. Helicon was the favorite seat of the muses.

Museum, a building or apartment appropriated as a repository of things that have an immediate relation to literature, art, or science, and where the objects may be inspected by those who are curious in such matters.

Mushroom, or **Agaric,** a genus of fungi, the species of which are very numerous. Many are poisonous, many are edible, and some are among the most esteemed fungi. The species most esteemed is the common mushroom found during summer and autumn in pastures, orchards, vineyards, etc. This mushroom is gathered for the table when young.

Music, originally, any art over which the muses presided; afterward, that science and art which deals with sounds as produced by the human voice, and by musical instruments.

Musick, John Roy, an American novelist; born in St. Louis, Mo., Feb. 28, 1849; died in Omaha, Neb., April 14, 1901. His books are excellent reading for the young, but the adaptation of the ideas and language of eminent writers is too manifest for the author to hold a dignified place in literature.

Musk, a garden-plant of musky odor from the region of the Columbia river. Also musky stork's-bill, a rare plant, with pinnate leaves smelling of musk. Chemically it is an odoriferous, resinous substance obtained from the male muskdeer. It is imported in the natural pods or bags from Bengal, China, and Russia, but the Tonquin musk is the most esteemed for its odor.

Muskdeer, an inhabitant of the mountainous regions of Central Asia from the extreme N. to as far S. as Cochin-China and Nepal. There is only one species, with perhaps four well-marked varieties. The muskdeer is much hunted on account of the odoriferous secretion which is found in a special gland on the hinder-part of the abdomen of the males.

Musk Duck, a duck wild in Guiana, etc., where the males fight savagely with each other. It is often reared in poultry yards. Corrupted into Muscovy duck; called also Barbary duck. Also an Australian duck.

Muskingum College, an educational institution in New Concord, O.; founded in 1837 under the auspices of the United Presbyterian Church.

Muskmelon, a delicious melon of a musky fragrance, much liked in the United States.

Musk-ox, a curious animal generally included in the oxen family, but has been also regarded by some naturalists as being more properly classified with the sheep, and in general appearance the musk-ox somewhat resembles a large sheep. Its body is covered by a coat of tufted hair of great length and of a brownish color. The hair affords material for the manufacture of a delicate fabric of silky nature, but it cannot be obtained in sufficient abundance for commercial purposes of any extent. The average size of the male is that of a small domestic ox. In habits these animals are gregarious, each herd numbering from 20 to 30 members, and it inhabits the Arctic regions of America.

Muskrat, a name common to several rodents having little in common except the secretion of a musky substance, or the diffusion of a musky odor; a beaver-like water rat. They inhabit the banks of lakes and rivers in this country, and construct dwellings somewhat resembling small haystacks. Their coloring is so much like that of the muddy banks on which they dwell, that they have been often mistaken for lumps of mud till their movements betrayed them. They are hunted for their fur, which is much valued.

Muslin, a bleached or unbleached thin cotton cloth, white, printed, or dyed.

Mussel, an individual of the genus Mytilus. The fry are found in water a few fathoms deep, and grow to maturity in about a year. Though prized and largely used for human food, mussels sometimes prove deleterious, and fatal effects have followed their consumption.

Mustang, the small wild horse of Southwestern United States and Northern Mexico, where it is found in extensive herds, and is captured and domesticated as the "Indian pony." It is supposed that the mustangs are descendants of Spanish horses which escaped from domestication in Mexico, and became the parents of the immense herds which afterward occupied the plain and prairie regions of the N. Mustangs display a lofty crest and a proud carriage, are sturdily built, and have legs and feet of the most lasting character.

The term "mustang" is sometimes applied in the American navy to naval officers who have not passed through the naval academy.

Mustard, the common name of several plants found in this country. Also a condiment obtained by grinding and sifting the seeds of black and white mustard. The flour produced forms the genuine mustard of commerce. The seeds yield by pressure from 18 to 36 per cent. of a fixed oil, and, after macerating with water and distilling, a small quantity of a highly pungent and volatile oil.

Muster, in a military sense, a review of troops under arms, to see if they be complete and in good order, to take an account of their numbers, the condition they are in, their arms and accoutrements, etc.

Mutiny, the unlawful insurrection or revolt of soldiers or seamen against the authority of their commanders; open resistance of officers or opposition to their authority. Officers joining in mutiny are guilty of the offense.

Mutoscope, a device for exhibiting instantaneous pictures of moving objects taken by the kinetograph or similar instrument. Photographic prints from the series of pictures thus obtained are mounted in consecutive order around a cylinder standing out like the leaves of a book. When this cylinder is slowly revolved, the picture cards being held back by a stop, and allowed to snap past the eye one by one, as one thumbs the leaves of a book, an apparently moving picture is the result.

Mutsu Hito, Mikado (or Emperor) of Japan; born Nov. 3, 1852. He ascended the throne in 1867, and married Princess Haruko in 1869. His children are Prince Yoshihito, born in 1879, and proclaimed Crown Prince in 1889, and three princesses. His reign has been marked by great reforms; and the feudal system, which had impeded the general progress of the country, has been abolished. Under the rule of the present Mikado, Japan has entered on an unprecedented era of prosperity. Civilization has made rapid progress, and the introduction of Western arts and ideas has secured for Japan a foremost place among the Asiatic nations.

Muttra, or **Mathura,** a town of India, in the Northwest Provinces, on the right bank of the Jumna, 30 miles above Agra. For centuries it has been a center of the Buddhist faith; the surrounding country swarms with associations of Krishna and Balarama. The city was sacked by Mahmud of Ghazni in 1017; its temples were destroyed by a native sultan in 1500, and by Aurungzebe in 1669; and it was plundered by the Afghans in 1756. In 1803 it passed into the hands of the British. The district has an area of 1,453 square miles, and a pop. of about 700,000.

Muzaffer-ed-Din, Shah of Persia, son of Nasr-ed-Din; born March 25, 1853. He was nominated by his father for the succession in spite of his being the second, and not the eldest son. He held the post of governor-general of the Azerbaijan province, his elder brother, Zil-es-Sultan, being governor of Ispahan. On the death of his father at an assassin's hand, Muzaffer-ed-Din quietly succeeded to the throne (May 1, 1896), and was enthroned at Teheran (June 8).

Muzzey, Artemas Bowers, an American Unitarian clergyman; born in Lexington, Mass., Sept. 21, 1802; was graduated at Harvard University (1824); at Harvard Divinity School (1828); pastor in Framingham, Cambridgeport, and Newburyport, Mass., and Concord, N. H.; interested in educational and political matters; in 1865 retired from ministerial work. He died in Cambridge, Mass., April 21, 1892.

Myers, Peter Hamilton, an American author; born in Herkimer, N. Y., Aug. 4, 1812; died in Brooklyn, N. Y., Oct. 30, 1878.

Myers, Philip Van Ness, an American historian; born in Tribes Hill, N. Y., Aug. 10, 1846; was graduated at Williams College, 1871; spent one year on a scientific mission to South America and two years in European travel; was president of Farmers' College, Ohio, 1879–1890; was Professor of History and Political Economy in University of Cincinnati, 1890–1900.

Mygale, a genus of spiders. Their nests, constructed of silk, are built in clefts of rock, trees, etc., and in

the ground. The bird-catching spider of Surinam belongs to this species; other larger species frequently prey on small vertebrate animals, not by laying toils for them, but by regularly hunting them.

Mylodon, in palæontology, a genus of edentate mammals, the best-known species of which reached a length of 11 feet, slightly less than that of the megatherium, which it much resembled.

Myna, a genus of birds, of which there are seven species ranging over the whole Oriental region and Celebes. It is one of the commonest birds of India, where it is found in large numbers, being eminently sociable in its habits. It feeds chiefly on insects, grain, and fruit.

Myopy, or **Myopia,** near or short sight, a defect of the eye, produced generally by too great convexity of the cornea or crystalline lens, causing the focus to be placed not on the cornea, but in front of it. It occurs in early life from too great use of the eyes on minute objects, as the print in a book, especially by imperfect light. As a rule the defect diminishes with the advance of age.

Myrobalan, a dried fruit of various species of trees, brought from the East Indies, all slightly purgative and astringent. Myrobalans are used by the Hindus in calico-printing and medicine, and imported into the United States for dyers and tanners, especially the latter.

Myrrh, a shrub growing in Arabia and Abyssinia. The gum resin which exudes from it, also called myrrh, occurs in irregular, roundish masses, called "tears," varying in size from small grains to pieces as large as an egg, semi-transparent, and possessing a reddish-brown color. It has a peculiar and agreeable fragrance, with an aromatic, bitter, and acrid taste. In pharmacy, there is a tincture of myrrh and a pill of aloes and myrrh. It is used in medicine.

Myrtle, a native of Persia. By distillation it yields an essential oil, used in perfumery. About 100 pounds of the leaves yield only five ounces of the perfume called in France eau d'ange (angel water).

Mysticism, a term used to denote the knowledge of God and intercourse with God through internal light and the operation of grace, in opposition to revealed faith on the one hand and speculative rational knowledge on the other. Its leading idea is that perfect holiness and spiritual knowledge are to be attained by devout contemplation rather than by outward means of grace and theological study. In the philosophy of the 15th and 16th centuries, in Paracelsus, Bruno, Campanella, and others, mysticism presented itself in extravagant flights of fancy in speculations concerning nature and the general constitution of being and took a direction which at a later period gave rise, on the side of philosophy,

MYRTLE.

a, branch in flower; *b*, vertical section of flower.

to the alchemists and Rosicrucians, and on the side of theology to a number of religious sects of which such men as Jacob Bohmen and Swedenborg may be considered the representatives. Very different opinions may be entertained as to the intrinsic value of the writings of the Mystics, but they are undoubtedly of importance in the history of the human mind as ex-

hibiting one of its most remarkable phases under particular circumstances of development.

Mythology (from Greek muthos or mythus, a tale or fable, and logos, a discourse), the collective name for the whole body of fables, legends, or traditions (myths) that take their rise at an early period of a nation's existence and of its civilization, and which embody the convictions of the people among whom such fables arise as to their gods or other divine personages, their origin and early history, and the heroes connected with it, the origin of the world, etc. Such fabulous narratives seem to grow up naturally among all early peoples and are found among the ruder races at the present day, but the mythologies which have been most studied, and the tales belonging to which are best known, are those of ancient Greece and Rome, Scandinavia, the Hindus, and ancient Egypt.

Myths are of course believed in by the bulk of the people among whom they are current, and it is only when speculative and reflective spirits arise and when science and philosophy have made some advances that their truth is called in question. Thus, Zeus, Apollo, Athene, Heracles, and the other divinities of ancient Greece, were believed by the bulk of the people to have a real existence and the stories regarding them were looked on as true; but even in Greece in early times the absurdities and monstrosities of some of the myths attracted the attention of philosophers and led to attempts at explaining the stories in such a way as that they should not shock common sense or moral feeling. By some authors the stories that represent the gods as guilty of gross immorality, as impure, cruel, and deceitful, were flatly denied, and those authors in whose writings such stories are found were accused of having invented them themselves. Homer and Hesiod were severely censured by Xenophanes and Heraclitus on this account; and Plato would not endure the idea that the Homeric poems should be admitted into his ideal republic. Others did not take the rough and ready method of simply denying the truth of the obnoxious stories, but attempted to explain their origin. In doing so they followed three chief systems of interpretation, called respectively by Max Muller the ethical, the physical, and the historical. No one theory, indeed, can be expected to explain the origin of all myths, for though we may admit that many, perhaps most, of them, are physical in origin, it is impossible to deny that others may be pure fabrications, tales invented by early bards or minstrels to beguile a weary hour, while in others fragments of real history may be hidden. To decide what class any myth is to be referred to, we must trace it if possible back to its earliest and most rudimentary form, and then, by the aid of the science of language, we may be able to say whether it is physical in origin or not; but as this will in many cases be impossible, there must always remain a number of myths whose origin cannot be settled.

N, the 14th letter and 11th consonant of the English alphabet.

Nabal, a rich and influential Israelite of the tribe of Judah. David, having afforded protection to Nabal and saved his flocks and herds, his property, and even his life when in danger, some time after sent to him to supply his troops with provisions, his forces being in want of immediate provender. This, Nabal refused; on which David, stung with the ingratitude of the man to whom he had shown so much favor, taking with him 400 men, set out for the residence of the mercenary Hebrew. Abigail, Nabal's wife, hearing of her husband's conduct and David's resolve, collected such provisions as the army required, and, attended by a train of servants, set out to meet the approaching king. Her beautiful person, combined with the excuses she made for her husband's conduct, so softened the heart of David, that he accepted her gifts, averted his wrath, and Nabal having been "smitten by the Lord" a few days after, David married his widow.

Nabatæans, a people of Northern Arabia, generally considered to have been of pure Arab blood, though some authorities, identifying them with the Ishmaelite tribe of Nebaioth, regard them as having been closely akin to the Edomites. They took possession of the country once occupied by the Edomites; and in the beginning of the 3d century B. C. they were one of the most powerful among the Arab tribes, warlike, with a force of 10,000 fighting men, nomadic, and busy carriers of merchandise between the East and West. Trajan, in 105, captured their stronghold and put an end to their kingdom. They possessed a certain measure of culture, derived from the Syrians.

Nabob, a popular name formerly much used, with a touch of contempt, for an Englishman, especially an English merchant, who had made a fortune in India, and returned to spend it in his own country, but now indiscriminately applied to any rich man.

Nabonassar, Era of, in astronomy, an era followed by Hipparchus and Ptolemy, and adopted from the Chaldean astronomers, who had been in the habit of referring the observations of eclipses to the beginning of the reign of Nabonassar, or Nebuchadnezzar, the alleged founder of the Babylonish empire.

Nabuco de Araujo, Jose Tito, a Brazilian dramatist; born in Rio Janeiro, Brazil, Jan. 4, 1836; wrote "The Son of Chance," a drama which has been successfully presented in several of the South American cities; "Life of Lamartine," etc.

Nachi, or **Nadches,** sometimes called Nahy, or Nagnatez, a tribe of North American Indians who formerly lived on St. Catherine's creek, near the present city of Natchez, Tenn. The name was also applied to the confederacy of towns, of which in 1699 there were eight. Owing to numerous conflicts with the French the confederacy was broken up in 1729, and the people scattered. A few still live among the Creeks and Cherokees in the Indian Nation.

Nack, James, an American poet; born in New York city, Jan. 4, 1809. He labored under the disability of being deaf and dumb. He died in New York city, Sept. 23, 1879.

Nadal, Ehrman Syme, an American author; born in Lewisburg, W.

Va., February 13, 1843. He graduated at Yale College in 1864; secretary of the United States legation at London, 1870–1871 and 1877–1884; a frequent contributor to magazines.

Nadir Shah, Shah of Persia; born in the province of Khorasan, about 1688. At an early age he obtained great notoriety as the chief of a band of robbers, gradually rising to power and distinction by his ambitious daring. In 1720, assuming a mask of patriotism, he raised a body of 5,000 men, and after several dashing achievements, succeeded in driving the Afghans from Persia, and ultimately in conquering the whole of their country, which he added to his own possessions. Later he made still further conquests and established absolute sway over an empire reaching from the Oxus in the N. to the ocean in the S., and from Bagdad in the W. to the Indus in the E. For the first years of his reign justice and moderation were the principles of his power; but as he advanced in years he gradually threw off all consideration, and ruled by his selfish, arbitrary, and unbridled will. He exercised such malignant cruelty on all, that his officers, discovering he meant to destroy them all, formed a league, and entering his tent by night, murdered him as he slept, and placed his nephew Ali on the musnud in June, 1747.

Nagasaki, a seaport of Kyushu, Japan, and for more than two centuries the only gate of communication for that empire with the outer world. The harbor is famous for its beauty. In 1859 Nagasaki became one of the five open ports. The great Takashima coal mine, on an island 8 miles seaward of the entrance to the harbor, serves to give importance to Nagasaki as a coaling station. Nagasaki also possesses a fine dockyard and patent slip. Pop. 107,422.

Nagoya, a city of Honshu, Japan, 75 miles E. by N. of Kioto, capital of Aichiken; it has a celebrated castle, erected in 1610 by 20 great feudal lords, and regarded as one of the wonders of the town, noted manufactures of porcelain, cloisonne, and fans. The town is connected by a nearly continuous street of 20 miles with Gifu, every house in which was overthrown in a terrible earthquake that visited the district in the autumn of 1891. Pop. 244,145.

Nagpur, a city of British India, the seat of administration for the Central Provinces, 450 miles E. N. E. of Bombay. It lies embosomed in trees, has several handsome tanks, gardens, and temples, and extensive suburbs, but is not a healthy city, the mean temperature being 78.7°. Here on Nov. 26, and 27, 1817, a British force of 1,350 men, commanded by Col. Scott, defeated a Mahratta army of 18,000 men. Pop. (1901) 124,599.

Nahuas, or **Nahuatlecas,** a collective name given to the Indian tribes which were the most powerful in Mexico at the time of the Spanish conquest. They had many pueblos, or towns, knew how to cultivate the ground, were skilled in gold and feather work and used hieroglyphics in writing. After the fall of Mexico in 1521 they lost much of their independence and drifted into a state of semi-slavery to the Spaniards. About 2,000,000 Indians of that region are now classed as Nahuas. They are sometimes called Aztecs.

Nahum, the 7th of the Minor Prophets: i. e., of the minor books of prophecy. The theme is "The Burden of Nineveh," the utter destruction of which is predicted, the reference probably being to its capture by the combined forces of the Medes and Chaldeans about 625 B. C. The style of the book has been highly commended and its canonical authority has never been doubted.

Naiad, in Greek and Roman mythology, one of certain inferior deities, who presided over rivers, wells, springs and fountains, and are represented as young, graceful, and extremely beautiful nymphs, to whom great veneration was paid and sacrifices offered.

Nails, flattened, elastic, horny plates, which are placed as protective coverings on the dorsal surface of the terminal phalanges of the fingers and toes.

Nails, slender pieces of metal, usually tapering and having a head, used for fastening together pieces of wood, metal or other substances. There are numerous varieties, but the most important are the cut, wrought, horseshoe, and wire.

Nairs, a Mohammedan caste in Malabar, who have peculiar marriage customs.

Naja, a genus of serpents, including several that are among the most dangerous of all the venomous snakes. The best known examples of the genus are the cobra de capello of India, and the N. haje of Egypt, which is tamed by native jugglers, and is identified by many writers with the asp employed by Cleopatra to bring about her death.

Namaqualand, Great, or **Namaland,** the extensive region in South Africa N. of Cape Colony, extending from the Orange river to Damaraland N., and stretching inland from the W. coast to the borders of British Bechuanaland; area, estimated, 460,000 square miles. It is mainly a sterile and barren region, and along a coast line of upward of 400 miles does not present a single running stream; but a few little bays along the coast, afford safe anchorages. Since 1885 it has been a German possession, with the exception of the small British coast territory of Walvisch Bay.

Namaquas, the principal existing tribe of the race generally known under the name of Hottentots. They inhabit the region called Great Namaqualand, N. of the Gariep or Orange river, and the country a few miles S. of it, as far as the Kamiesbergen. They are a pastoral people of rather predatory habits, and live under the rule of their chiefs.

Namaycush, a fish nearly allied to the salmon, inhabiting the great lakes and rivers of North America. Good-sized specimens weigh from 20 to 40 pounds and it is much esteemed for the table.

Names. Among the Greeks, with the exception of a few families at Athens and Sparta, there were no family names. Among the Celtic and German nations, each person was denoted by one word. This was also the case in the early and primitive states of society. Among the ancient Hebrews, the names of Abraham, Aaron, David, Solomon, were employed individually and singly. In the other nations which preceded European civilization, the same feature is to be observed. One word denoted one person in Egypt, Syria, and Persia.

Among the Saxons the same primitive system was prevalent not only when they were first established, but during the whole period when they held dominion in Britain. The names of Alfred, Harold, Edwin, etc., each signified a single individual. At the present day, the system of personal nomenclature is to have one name for the individual prefixed to another name which distinguishes the family to which he belongs. Probably one of the oldest methods of distinguishing different individuals of the same name was by adding their father's name to their own. Hence originated many English, German, and Danish names which end in son, sohn, and sen; for example, Williamson, Andersohn, Thorwaldsen. With feudalism new names were introduced derived from the districts conferred on the nobles, or from the feudal relations. Another class of names are those of locality, which are either derived from places of generic names, as Hill, Dale, Cliff, etc., or from some specific place. Everywhere the nobility had family names before the commoners. But among the latter is a class of names derived from their occupation and trades; such as Smith, Miller, Fisher, Barber, etc. The number of this class is very great, and includes the names of several lost trades, or trades which have changed their names; thus we have Furbisher, Foster, Fletcher, Pargetter, Taverner, Webster, Page, Reeve, etc. Sometimes striking external peculiarities or mental qualities have given origin to names which have descended to the posterity of those on whom they were bestowed; such are Swift, Brown, Long, White, Black, Good, Wise, and others. There are only 53 names of men which can be used without some appearance of singularity. Of these there are 25 of Hebrew origin, 19 derived from the dialects of Western Europe, 5 from the Greek, and 4 from the Latin. Out of the whole there are 12 more in use than any others: these are Charles, Edward, Francis, George, Henry, James, John, Richard, Robert, Samuel, Thomas, and William.

Nana Sahib, the name under which Dundhu Panth, adopted son of the ex-peshwa of the Mahrattas, became known as the leader of the Indian Mutiny in 1857; born about 1825. He

was the son of a Brahmin in the Deccan, and, educated as a Hindu nobleman, he was bitterly disappointed that when the peshwa died in 1851 the latter's pension was not continued to himself. He was industrious in fanning discontent with the English rule, on the outbreak of the mutiny he was proclaimed peshwa, and was responsible for the massacres at Cawnpur. After the suppression of the rebellion he escaped into Nepal. He is said to have died about 1860, but may still be living.

Nancrede, Charles Beylard, an American physician; born in Philadelphia, Pa., Dec. 30, 1847; was graduated at the medical department of the University of Pennsylvania in 1869; served as chief surgeon of the 3d Division, 2d Army Corps, and with the 5th Army Corps in the Santiago campaign of 1898, where he was recommended for promotion for gallantry on the field. He was author of "Principles of Surgery" (1899), and of articles in various technical publications.

Nancy, a town of France; capital of the department of Meurthe-et-Moselle, on the Meurthe, 220 miles E. of Paris. It has grown much in importance since the German annexation of Alsace-Lorraine, has manufactures of cotton and woolen goods, artificial flowers, iron, tobacco, etc.; but its staple industry is embroidery on cambric and muslin. Pop. (1901) 102,463.

Nankeen, or **Nanking, Cloth,** a fabric made of a kind of cotton grown in China which is naturally of a buff-yellow color, and this is also the color of the cloth. In the first half of the 19th century nankeen cloth was much used for ladies' and children's attire, and also for men's trousers, but now the name, when applied to certain kinds of cotton goods, is not confined to fabrics resembling genuine nankeen cloth.

Nanking, capital of the province of Kiangsu, formerly the capital of China, on the Yangtse river, 130 miles from its mouth. From 1853 to 1864 it was the capital of the Taiping rebels, who destroyed nearly all the magnificent public buildings for which the city was once famous. Previous to that time the walls enclosed an area nearly 20 miles in circumference, and reached in many places an elevation of 70 feet. After its recapture by the Chinese imperialists, Nanking resumed its position as the seat of the viceregal government, and an arsenal was established. In 1842 it was captured by the British. Though specified in the treaty of Tien-tsin (1858) as a river port to be opened to foreign trade, little has come of this concession. Pop. 150,000.

Nansen, Fridjof, a Norwegian scientist and explorer; born in Great Froen, near Christiania, Norway, Oct. 10, 1861. Following 1884, he matured a plan for a polar journey, a vessel (the "Fram") was built, designed especially for encountering the drift ice, and on June 24, 1893, with a crew of 11 men, he set sail from Christiania for the polar regions. They reached the New Siberian Islands in September, and in 1895 were in lat. 84° 4'. There, accompanied by Johansen, Nansen left the "Fram" in charge of his other companions and pushed across the ice to Franz-Josef Land, where he wintered. Here, on June 17, 1896, he met the Jackson-Harmsworth expedition, with which he returned to Vardo, having in his cruise penetrated to lat. 88°, circumnavigated the Nova Zembla, Franz-Josef, and Spitzbergen archipelagoes, and reached a point about 225 miles from the Pole. One week later the "Fram" reached Vardo. He was appointed Professor of Zoölogy in the University of Christiania.

Nantes, the 7th largest city of France, capital of the department of Loire-Inferieure, on the right bank of the tidal Loire, 35 miles from the sea, and 248 S. W. of Paris. The chief exports are hardware, cereals, and preserved provisions; the chief imports, sugar, iron cocoa, and wines. Shipbuilding has greatly fallen off, but still is one of the leading industries, together with the preparation of sardines, and the manufacture of sugar, leather, iron, nets, soap, machinery, etc., while 10 miles below Nantes is the vast government steam engine factory of Indret, employing from 2,000 to 3,000 hands.

Nantucket, an island, county, town, and county-seat of Massachusetts; off the coast of Cape Cod, 30 miles from the mainland. The island

is about 15 miles long by ¾ of a mile wide; is triangular in shape; and with several small adjacent islands has an area of about 60 square miles. The equable climate and dry soil of the island make it very healthful, and a favorite summer resort. Pop. (1890) 3,006; (1900) 3,268.

Nantucket, The, an iron, single-turreted monitor of the United States navy. The keel of this boat was laid in 1862.

Naphtali (Hebrew = my wrestling), the 6th son of Jacob, and the head of one of the 12 tribes. The tribe had its full share in repelling the incursions of the Canaanites during the first centuries of the conquest, but disappears from history when Tiglath-pileser overran the N. of Israel and bore away the whole of the population to Assyria. Under the title of Galilee the district occupied by the tribe became in New Testament times more famous than it had ever been before.

Naphtha, a word derived from the Persian word nafata, "to exude" and originally applied to liquid hydrocarbons which exude from the ground in the neighborhood of the Caspian Sea.

Commercially, naphtha is now understood to apply to the inflammable distillates of crude mineral oils and coal-tar. For trade convenience the volatile distillates of petroleum and shale oil are known respectively as petroleum spirit and shale spirit, to distinguish each from the other, and both from coal-tar naphtha. The term naphtha also embraces distillates of india-rubber, bones, peat, and wood, the last of these being known as wood spirit or methyl alcohol.

Napier, Sir Charles, an English naval officer; born near Falkirk, England, March 6, 1786. In 1813 he was attached to the North American squadron, and in August of the following year he led the expedition up the Potomac river. At the conclusion of the war he was made a C. B. He was appointed in 1839 to the command of the "Powerful," and ordered to the Mediterranean, where, on the outbreak of the war between Mehemet Ali and the Porte, and the coöperation of Great Britain with Russia and Austria on behalf of the latter power, Sir Charles Napier performed some of his most gallant exploits, including the storming of Sidon and the capture of Acre. Having blockaded Alexandria, he concluded on his own responsibility a convention with Mehemet Ali, by which the latter and his family were guaranteed in the hereditary sovereignty of Egypt on resigning all claim to Syria. On his return to England he was created K. C. B. In 1854, on the commencement of the Russian war, he was nominated to the command of the Baltic fleet, being now a rear-admiral. In this capacity he accomplished little beyond the capture of Bomarsund. He sat in Parliament as member for Southwark from 1855 till his death. He died Nov. 6, 1860.

Napier, Sir Charles James, a British military officer; born in London, England, Aug. 10, 1782. In 1812 he was made lieutenant-colonel, and in the following year served in the expedition to the Chesapeake. In 1837 he was made Major-General; in 1838 K. C. B. In 1841 he was appointed to the chief command in the presidency of Bombay, with the rank of Major-General, and was shortly afterward called to Scinde. Here he gained the splendid victories of Meanee and Haidarabad, and was afterward made governor of Scinde, which he administered till 1847. Having returned to England, he died in Portsmouth, Aug. 29, 1853.

Napier, John, a Scotch mathematician, the inventor of logarithms; born in Merchiston, near Edinburgh, Scotland, in 1550. He was educated at St. Andrews, traveled on the Continent, and ultimately settled down at the family seats of Merchiston, near Edinburgh, and Gartness, in Stirlingshire, as a recluse student. In 1614 he published his book of logarithms. He died in Merchiston, April 4, 1617.

Napier, Robert, Lord, an English military officer; born in Ceylon, Dec. 6, 1810. In 1865, Sir Robert was made Commander-in-Chief of the British army sent out to Abyssinia for the rescue of the English captives, held there by its semi-barbarous ruler, King Theodore. After successfully accomplishing his mission, Sir Robert was raised to the peerage as Lord Napier, of Magdala, and also made a Knight Grand Cross of the Star of India. In 1869, he was appointed Commander-

in-Chief of the British Indian army; and governor of Gibraltar in 1876. He died in London, England, Jan. 14, 1890.

Naples, a city in Italy, formerly capital of the kingdom and now of the province of the same name, on the W. coast, 117 miles S. E. of Rome, magnificently situated on the N. side of a nearly semicircular bay, partly stretching along the shore and partly climbing the adjacent heights, bounded on the W. by the picturesque heights of Posilipo, and on the E. by the lofty mass of Vesuvius, while the surrounding country is rich in natural beauty and in historic interest.

Naples was founded many centuries before the Christian era by a colony of Greeks who had settled at Cumæ. It took the name of Neapolis (New City) as opposed to the older Greek city of Parthenope adjoining, and is said to have retained strong traces of its Grecian origin to a late period of the Roman empire. It was indebted to the Emperors Hadrian and Constantine the Great for numerous embellishments, and became a luxurious retreat to which many of the wealthier Romans were accustomed to resort. In 536 it was pillaged by Belisarius, and a few years after, when it had been rebuilt, the same disasters again befell it at the hands of Totila (542). It was afterward successively under the sway of the Normans, the Emperors of Germany, and the Kings of France and Spain. Under the latter it became the capital of an independent kingdom, but having been brought within the vortex of the French Revolution, was handed over by Napoleon, first to his brother Joseph, and then to his brother-in-law Murat. The Congress of Vienna having restored the legitimate sovereignty, Naples received back its former masters. After a long period of misrule they were ejected by Garibaldi in 1860, and Naples was then incorporated into the kingdom of Italy. Under the new regime much has been done to improve the city both in sanitary and in other respects. Pop. (Feb. 9, 1901) 563,751.

Naples, Bay of (the ancient Crater Sinus), an arm of the Mediterranean, on the W. coast of Italy. It is separated from the open sea by the islands of Procida, Ischia, and Capri. Its shores have for ages been the scene of powerful volcanic agency, and the scenery has long been celebrated for its beauty and grandeur. Mount Vesuvius is the most striking and distinctive feature.

Napoleon Bonaparte, or Napoleon I., Emperor of the French; was born Aug. 15, 1769, at Ajaccio, Corsica, and was the son of Charles Bonaparte, an advocate, and of Letizia Ramolino. (See Bonaparte.) In his 10th year he was sent to the military school of Brienne, and after a short time spent at that of Paris he received, in 1785, his commission as lieutenant of artillery. In 1792 he became captain of artillery, and in 1793 he was sent, with the commission of lieutenant-colonel of artillery, to assist in the reduction of Toulon, then in the hands of the British. The place was captured (December 19) entirely through his strategic genius; and in the following February he was made a brigadier-general of artillery. In 1795, when the mob of Paris rose against the Convention, Napoleon was made commander of 5,000 troops provided for his defense, and ended the outbreak. On March 9, 1796, he married Josephine Beauharnais, and soon after he had to depart to assume the command of the army of Italy against the forces of Austria and Sardinia. After a series of victories, Naples, Modena, and Parma hastened to conclude a peace; and the whole of Northern Italy was in the hands of the French. Army after army sent by Austria was defeated; Napoleon carried the war into the enemy's country; and by the Peace of Campo Formio, which followed (Oct. 17, 1797), Austria ceded the Netherlands and Lombardy, and received the province of Venetia.

In December, 1797, Napoleon returned to Paris. About this time the Directory determined to invade Egypt. Napoleon was put in command of the expedition, and on the 1st of July, 1798, he landed at Alexandria. This city fell on July 4, and Cairo was taken on the 24th, after the sanguinary battle of the Pyramids. On Aug. 4 Nelson annihilated the French fleet in the Bay of Aboukir. All means of return to Europe seemed thus cut off. Napoleon having suppressed with rig-

or a riot in Cairo, advanced to attack the Turkish forces assembling in Syria. He took El Arish and Gaza, but after 60 days' siege he was compelled to abandon the attempt to capture Acre, and returned to Cairo. On the 22d of August he abandoned the command of the army to Kleber, and embarking in a frigate landed at Frejus, Oct. 9, having eluded the English cruisers. He hastened to Paris, secured the coöperation of Moreau and the other generals then in the capital, and abolished the Directory on the 18th and 19th Brumaire (November 9–10). A new constitution was then drawn up chiefly by the Abbe Sieyes, under which Napoleon was made first consul, with Cambaceres and Lebrun as second and third consuls. From this time he was virtually ruler of France.

Napoleon's government was marked by sagacity, activity, and vigor in the administration of civil affairs, and so far was beneficial to France, but England was determined to destroy him, and assisted Austria to fight France. Napoleon defeated the Austrians at Marengo, and after the decisive battle of Hohenlinden Austria obtained peace by the Treaty of Luneville, 1801. Treaties were subsequently concluded with Spain, Naples, the Pope, Bavaria, Portugal, Russia, Turkey, and finally, on March 27, 1802, the treaty known as that of Amiens was signed by Great Britain.

In 1802 Napoleon was proclaimed by a decree of the senate consul for life, and in 1804 he had himself crowned as emperor, upwards of 3,000,000 votes of the people being given in favor of this measure. To this period belongs the famous body of laws known as the Code Napoleon.

In 1805 Great Britain, Russia, Austria, and Sweden united against Napoleon who marched at once across Bavaria at the head of 180,000 men, and compelled the Austrian General Mack to capitulate at Ulm with 23,000 men. On December, having crossed the Danube, he completely routed the allied Russian and Austrian armies at Austerlitz. The Austrian emperor instantly sued for peace, giving up to France all his Italian and Adriatic territories. In February, 1806, a French army occupied the continental part of the Neapolitan states, of which Joseph Bonaparte was declared king on the deposition of their former sovereign. Another brother of the emperor, Louis, become King of Holland. Various districts in Germany and Italy were erected by the conqueror into dukedoms and bestowed on his most successful generals.

This brought the victorious ruler into collision with Prussia, and war was declared on Oct. 8. On the 14th Napoleon defeated the enemy at Jena, while his general Davout, on the same day gained the victory of Auerstadt. On the 25th Napoleon entered Berlin and issued the celebrated Berlin decrees, directed against British commerce. He then marched northward against the Russians, who were advancing to assist the Prussians. At Pultusk and at Eylau he met with severe checks, but on June 14 was fought the battle of Friedland, which was so disastrous to the Russian arms that Alexander was compelled to sue for an armistice. On July 7 the Peace of Tilsit was concluded, by which the King of Prussia received back half of his dominions, and Russia undertook to close her ports against British vessels. As Portugal had refused to respect the Berlin decrees, Napoleon sent Junot to occupy Lisbon (Nov. 30, 1807).

Taking advantage of the decayed condition of the Spanish monarchy, Napoleon sent an army under Murat into that kingdom, which took possession of the capital, and by the Treaty of Bayonne Charles IV. resigned the Spanish crown, which was given to Joseph Bonaparte, Murat receiving the vacant sovereignty of Naples. The great body of the Spanish people arose against this summary disposal of the national crown, and Great Britain aided them in their resistance. Thus was commenced the Peninsular war, which lasted seven years. A French squadron was captured by the British at Cadiz (June 14, 1808); General Dupont surrendered at Baylen with 18,000 men (July 22); Junot was defeated by Sir Arthur Wellesley (Wellington) at Vimeira (Aug. 21). But Napoleon rushed to the scene of action in October at the head of 180,000 men, and entered Madrid in spite of all resistance by the Spaniards on Dec. 4. The British troops now under Sir John Moore, were driven back upon

Corunna, where they made a successful stand, but lost their general (Jan. 16, 1809).

In the meantime the Austrian emperor again declared war and got together an army in splendid condition under the Archduke Charles. Napoleon hurried into Bavaria, encountered the archduke at Eckmuhl (April 22), and completely defeated him; on May 13 he again entered Vienna. On May 21 and 22 he was himself defeated at Aspern and Esslingen; but on July 6 the Austrians were crushed at Wagram, which enabled Napoleon to dictate his terms of peace.

On his return to Paris Napoleon was divorced from Josephine, who had borne him no children, and on April 2, 1810, he was married to the Archduchess Maria Louisa of Austria. The fruit of this union was a son. It was a most unhappy marriage for Napoleon, as Maria Louisa proved both heartless and dissolute.

The years 1810 and 1811 were the period of Napoleon's greatest power. On the north he had annexed all the coast-line as far as Hamburg, and on the south Rome and the southern papal provinces. But now the tide began to turn. Russia found it impossible to carry out the continental blockade and give due effect to the Berlin decrees; so in May, 1812, Napoleon declared war against that country, and invaded it with a grand army of about 500,000 men. The French pushed rapidly forward, and entered Moscow, the greater part of which was soon laid in ashes, and the remainder made uninhabitable. With disquieting news from Paris, and fearing that his army would perish if cooped up in Moscow, Napoleon decided on a retreat. The winter was very severe, and swarms of mounted Cossacks incessantly harassed the French, now sadly demoralized by cold, famine, disease, and fatigue. Of the invaders only about 25,000 left Russia. Napoleon immediately ordered a fresh conscription, but the spirit of Europe was now fairly roused. Another coalition, consisting of Prussia, Russia, Great Britain, Sweden, and Spain, was formed, which early in 1813 sent its forces toward the Elbe. Napoleon still had an army of 350,000 in Germany. He defeated the allies at Lutzen, at Bautzen, and at Dresden; but the last was a dearly bought victory for the French, who were now so outnumbered that their chief was compelled to fall back on Leipsic. There he was completely hemmed in, and in the great "Battle of Nations," which was fought on Oct. 16, 18, and 19, he was completely defeated. He succeeded in raising a new army, and from January to March, 1814, he confronted the combined hosts of allies. But numbers were against him, and Wellington rapidly advanced upon Paris from the south. On March 30 the allies captured the fortifications of Paris, and on the 31st the Emperor Alexander and Wellington entered the city. On April 4 Napoleon abdicated at Fontainebleau. He was allowed the sovereignty of the island of Elba, with the title of emperor and a revenue of 6,000,000 francs, and Louis XVIII. was restored.

After a residence of 10 months in Elba, Napoleon made his escape from the island, and landed at Frejus on March 1, 1815. Ney and a large part of the army joined him, and he made a triumphal march upon Paris; but it was mainly the army and the rabble that he now had on his side. The allied armies once more marched toward the French frontier, and Napoleon advanced into Belgium to meet them. On June 16 he defeated Blucher at Ligny, while Ney held the British in check at Quatre-Bras. Wellington fell back upon Waterloo, where he was attacked by Napoleon on the 18th, the result being the total defeat of the French. The allies marched without opposition upon Paris. Napoleon abdicated in favor of his son, and tried to escape from France to the United States, but failing he surrendered to the captain of a British man-of-war. He was conveyed to the island of St. Helena, where he was confined for the rest of his life. He died May 5, 1821, and was buried in the island, but in 1840 his remains were transferred to the Hotel des Invalides at Paris.

Napoleon II. (Napoleon Francois Bonaparte), titular Emperor of France, son of the Emperor Napoleon I. and of Maria Louisa of Austria; born in Paris, France, March 20, 1811. From his birth he was styled "King of Rome." After his father's first ab-

dication in 1814 he went with his mother to Vienna, where he was brought up at the court of his grandfather, the Emperor Francis, who created him Duke of Reichstadt. After passing through the various subordinate grades he was made a lieutenant-colonel in June, 1831, and he took the command of a battalion of Hungarian infantry, then in garrison at Vienna. He was extremely assiduous in his military duties, but his constitution was weak. He was stricken with consumption and after a lingering illness died, July 22, 1832, in the palace of Schonbrunn, attended by his mother, who had come from Parma to visit him.

Napoleon III. (Charles Louis Napoleon Bonaparte), Emperor of the French; born in Paris, France, April 20, 1808. He was the youngest son of Louis Bonaparte, brother of Napoleon I. and King of Holland, and of Hortense de Beauharnais. His early life was spent chiefly in Switzerland and Germany. By the death of his cousin the Duke of Reichstadt (Napoleon II. see above) he became the recognized head of the Bonaparte family, and from this time forward his whole life was devoted to the realization of a fixed idea that he was destined to occupy his uncle's imperial throne. In 1836 an attempt was made to seduce the garrison of Strasburg, but the affair turned out a ludicrous failure. The prince was taken prisoner and conveyed to Paris, and the government of Louis Philippe shipped him off to the United States. The death of his mother brought him back to Europe, and for some years he was a resident of England. In 1840 he made a foolish and theatrical descent on Boulogne; was captured, tried, and sentenced to perpetual confinement in the fortress of Ham. After remaining six years in prison he escaped and returned to England. On the outbreak of the revolution of 1848 he hastened to Paris, and securing a seat in the National Assembly, he at once commenced his candidature for the presidency. On the day of the election it was found that out of 7,500,000 votes Louis Napoleon had obtained 5,434,226. On Dec. 20, the prince-president, as he was now called, took the oath of allegiance to the republic. He looked forward to a higher position still, however, and pressed for an increase of the civil list from 600,000 francs first to 3,000,000, then to 6,000,000, with his term of office extended to 10 years and a residence in the Tuileries. At last, on the evening of Dec. 2, 1851, the president declared Paris in a state of siege, a decree was issued dissolving the assembly, 180 of the members were placed under arrest, and the people who exhibited any disposition to take their part were shot down in the streets by the soldiers. Another decree was published at the same time ordering the reëstablishment of universal suffrage, and the election of a president for 10 years. When the vote came to be taken, Dec. 20 and 21, it was discovered that 7,439,216 suffrages were in favor of his retaining office for 10 years, with all the powers he demanded, while only 640,737 were against it.

As soon as Louis Napoleon found himself firmly seated he began to prepare for the restoration of the empire. In January, 1852, the National Guard was revived, a new constitution adopted, and new orders of nobility issued; and at last, on Dec. 1, Louis Napoleon Bonaparte was proclaimed emperor under the title of Napoleon III.

On Jan. 29, 1853, the new sovereign married Eugenie Marie de Montijo, Countess de Teba. In March, 1854, Napoleon III., in conjunction with England, declared war in the interest of Turkey against Russia (see Crimean War). In April, 1859, war was declared between Austria and Sardinia, and Napoleon took up arms in favor of his Italian ally, Victor Emanuel. The allies defeated the Austrians at Montebello, Magenta, Marignano, and Solferino. By the terms of the peace of Villafranca Austria ceded Lombardy to Italy, and the provinces of Savoy and Nice were given to France in recognition of her powerful assistance (March 10, 1860). In 1860 the emperor sent out an expedition to China to act in concert with the British; and in 1861 France, England, and Spain agreed to dispatch a joint expedition to Mexico for the purpose of exacting redress of injuries, but the English and Spaniards soon withdrew. The French continued the quarrel, and an imperial form of government was initiated, Maximilian, Archduke of

Austria, being placed at its head with the title of emperor. Napoleon, however, withdrew his army in 1867, at the imperative demand of the United States, and Maximilian, left to himself, was captured and shot. On the conclusion of the Austro-Prussian war of 1866, Napoleon, jealous of the growing power of Prussia, demanded a reconstruction of frontier, which was peremptorily refused. The ill-feeling between the two nations was increased by various causes, and in 1870, on the Spanish crown being offered to Leopold of Hohenzollern, Napoleon demanded that the King of Prussia should compel that prince to refuse it. Notwithstanding the subsequent renunciation of the crown by Leopold war was declared by France. On July 28, Napoleon set out to take the chief command, and on Sept. 2, the army with which he was present was compelled to surrender at Sedan. One of the immediate consequences of this disaster was a revolution in Paris. The empress and her son secretly quitted the French capital and repaired to England, where they took up their residence at Camden House, Chislehurst. Here they were rejoined by the emperor (who had been kept a prisoner of war for a short time) in March, 1871, and here he remained till his death, Jan. 9, 1873.

The third Napoleon was commonly known as "the crow in the eagle's nest," bearing, as he did, very little personal or other resemblance to the great Napoleon. He was always unfriendly to the United States, and was anxious to recognize the Confederacy, provided he could get England to join him in that course. His cowardly abandonment of Maximilian, whom he had induced to become so-called Emperor of Mexico, deprived him of any claim to sympathy, when his own day of trial arrived, and he died unmourned, save by his faithful wife, who still survives him, and his unfortunate son.

Napoleon, Prince (Napoleon Eugene Louis Jean Joseph Bonaparte), Prince Imperial of France, son of Napoleon III.; born in Paris, France, March 16, 1856. He joined the British army in South Africa as a volunteer and was killed by the Zulus, June 2, 1879.

Narcissus, an extensive genus of bulbous plants. The species are numerous, and from their hardiness, delicate shape, gay yellow or white flow-

NARCISSUS.

a, Narcissus Pseudonarcissus; *b*, Narcissus Tazetta; *c*, Narcissus Poeticus; *d*, Narcissus Jonquilla.

ers, and smell, have long been favorite objects of cultivation, especially the daffodil, the jonquil, polyanthus narcissus, and white narcissus.

Narcotics, remedies which produce stupor if the dose be increased beyond a certain point. Opium is the most important member of the group, and the type from which most descriptions of the action of this class of medicines have been drawn; but it includes substances of very various properties. Some, as alcohol, produce intoxication in lesser doses; some, as belladonna, delirium; most have a primary stimulating effect; in fact, almost every one presents some peculiarity in the way in which it affects the system, and no satisfactory general description of their minor effects is possible. Other narcotics are henbane, Indian hemp, chloral, etc. All the narcotics when taken in excess are poisonous.

Nares, Sir George Strong, a British Arctic explorer; born near

Aberdeen, Scotland, in 1831. He entered the navy and took part in the Arctic expedition of 1852–1854. From 1872 to 1874 he commanded the "Challenger" during her scientific expedition, and in 1875 was first in command of the North Polar expedition. He was the author of "Reports on Ocean Soundings," "Voyage to the Polar Sea," etc.

Narragansett Bay, an inlet of the Atlantic Ocean on the coast of Rhode Island; length about 28 miles; width about 12 miles. The city of Newport is on the shore of this bay near its entrance. Large vessels can ascend it from the sea to Providence.

Narragansetts, a tribe of North American Indians which, in the early history of the United States, occupied the part of Rhode Island W. of Narragansett Bay. They were nearly destroyed during King Philip's war.

Narses, a general of the Byzantine empire; born in Persamenia, about 478. He was a eunuch, entered into the service of the Emperor Justinian at the court of Constantinople, rose by his merit to the highest dignities of the state, and distinguished himself by military exploits. After vanquishing Totila the Goth, he captured Rome; rescued Italy from the Ostrogoths and other barbarians; was appointed governor of the country, and ruled it for 15 years, but was at length deposed, and died in Rome about 573.

Narwhal, Narwal, or **Narwhale,** a cetacean, called also the sea-unicorn. The name sea-unicorn is given because the male has a horn 6, 7, or even 10 feet long, one of the teeth in the upper jaw extraordinarily prolonged. It is the left tusk which makes the horn, the right being rarely developed. The tusk is spirally furrowed, and is of ivory, like the tusk of an elephant. The length of the narwhal varies from 15 to 20 or 22 feet, the head being one-fourth of the whole, and the horn one-half. It is in its element amid the snow and ice of the 80th parallel of N. latitude. It feeds on the mollusca, and yields an oil more valuable than that of the common whale.

Nash, William Hoyt, an American military officer; born in Gallipolis, O., June 22, 1834; was educated at Gallipolis Academy, and Marietta College; entered the army as a telegraph operator in 1861. A year later he was appointed captain in the commissary subsistence department, in which he was steadily promoted; being made commissary-general of subsistence, with rank of Brigadier-General, U. S. A., April 21, 1898. He was retired May 2, 1898.

Nashville, the capital of the State of Tennessee; on the Cumberland river, 233 miles E. N. E. of Memphis. This city is regarded as the most important educational center in the South, and in population is the largest city in Tennessee. It is built on undulating grounds with the exception of Capitol Hill, which is very abrupt.

Nashville occupies a foremost place among the manufacturing centers of the country. It is the fifth boot and shoe market in the United States, the largest candy and cracker manufacturing city in the South, and its flouring mills have a daily capacity of more than 2,000 barrels. The iron interests of the South are largely controlled here, one company alone representing over $100,000,000 capital employed in making coke, iron, and steel in Tennessee and Northern Alabama.

Nashville was settled in 1780; received its city charter in 1806; was made the permanent State capital in 1843. It was occupied by Union troops in 1862, and was the scene of a noted battle in 1864. About 12 miles E. of Nashville is The Hermitage, the home of Andrew Jackson, the log cabin in which he was born stands in the grounds, and near by is his tomb. Pop. (1900) 80,865.

Nashville, Battle of, a desperate battle fought near Nashville, Tenn., Dec. 15–16, 1864. In November of that year, Atlanta having been taken, the Confederate General Hood, invaded Tennessee. On Nov. 30, he advanced against Nashville, where he shut up a National force under General Thomas for two weeks. The latter then sallied out and in a terrible conflict of two days defeated the Confederates. The Union loss was 400 killed and 1,740 wounded; the total Confederate loss was estimated at 15,000.

Nashville, University of, a co-educational, non-sectarian institution in Nashville, Tenn., founded in 1785.

Nasmyth, James, a British engineer and astronomer; born in Edinburgh, Scotland, Aug. 19, 1808. He removed in 1834 to Manchester, England. The steam hammer, which has rendered possible the immense forgings now employed, was invented by him in 1839. The steam pile driver, and the safety foundry ladle, are among his other inventions. He died in London, England, May 7, 1890.

Nason, Elias, an American biographer; born in Wrentham, Mass., April 21, 1811; died in North Billerica, Mass., June 17, 1887.

Nason, Emma (Huntington), an American poet; born in Hallowell, Me., Aug. 6, 1845.

Nasr-ed-Deen, Shah of Persia; born April 24, 1831. He succeeded in 1848. In 1856 his occupation of Herat involved him in war with Great Britain. After that he was friendly, and made two journeys to Western Europe, in 1873 and 1889. In his reign telegraphic communication between Europe and India through Persia was secured. He was assassinated May 1, 1896.

Nassau, formerly a German duchy, now Weisbaden, a district of the Prussian province of Hesse-Nassau. The soil is fertile and produces some of the most esteemed Rhenish wines. Weisbaden is the capital of the district. The family of Nassau, the elder branch of which reigned till 1866, dates from the 10th century. The younger branch inherited in 1544 the principality of Orange, and as the princes of Orange took an important place in European history. The reigning Duke of Nassau sided against Prussia in 1866, and his duchy was incorporated with Prussia. On the extinction of the male line of the Orange branch by the death of William III. of Holland, in 1890, the Duke of Nassau became Grand-Duke of Luxemburg.

Nassau, Fort, an old fort on the Delaware river, near the site of the present city of Gloucester, N. J., memorable as the first settlement on the shores of the Delaware, and built by Capt Jacobus May, in 1831.

Nast, Thomas, an American artist; born in Landau, Bavaria, Sept. 27, 1840; was educated in the public schools of the United States. He began early to draw and contributed illustrations to various papers. He also illustrated a large number of books, and lectured throughout the country, introducing the system of drawing on a blackboard the various characters or subjects under consideration. He is best known for his political cartoons, which were of great influence in the various political campaigns, and were effective in the exposure of the "Tweed ring." In 1902 he was appointed United States consul at Guayaquil, where he died Dec. 7, 1902, of yellow fever.

Nasturtium, the botanical name of the water cress; also the popular designation of the Indian cress. The genus comprises some beautiful garden climbers, such as the widely cultivated canary creeper, a native of Peru.

Natal, a British colony on the S. E. coast of Africa; area, est. 35,019 square miles; pop. 902,365. The only spot where sheltered anchorage can be obtained is at Port Natal, a fine circular bay near the center of the coast. The surface is finely diversified, rising toward the lofty mountains on its W. frontiers. The chief summits are Champagne Castle, 10,357 feet; Mont aux Sources, about 10,000 feet; and Giant's Castle, 9,657. The mineral productions are principally coal, ironstone, limestone, and marble; gold has also been found in various localities. The colony is well watered, but none of its rivers are navigable. The climate on the whole is extremely salubrious. There are large forests on the W. and N. frontiers. The soil is generally rich and strong. In the less frequented parts of the interior elephants and lions are still occasionally seen; the leopard is not uncommon and hyenas, tiger-cats, antelopes, jackals, ant-bears, and porcupines are numerous. The hippopotamus has still his haunts in several of the rivers, and there are numbers of small crocodiles. The birds comprise the vulture, several varieties of eagle, the secretary-bird, wild turkey, etc. Natal was discovered on Christmas day, 1497, by Vasco da Gama, a Portuguese, and named by him "Terra Natalis." The first settlers were the Dutch Boers, who left Cape Colony in 1836, and in 1839 removed to Port Natal and proclaimed

themselves an independent republic. The establishment of a hostile settlement at the only port between Algoa and Delagoa Bays was incompatible with British interests, and in 1845 Natal, after a formidable resistance by the Boers, was proclaimed a British possession. In 1856 it was separated from Cape Colony and made a separate colony.

The province of Zululand was annexed to Natal, Dec. 30, 1897. There is a governor appointed by the British crown, a Ministry of five members, a legislative council of 11 members, appointed for 10 years by the governor, with the advice of the ministry, and a legislative assembly of 39 members, elected for four years by voters having a property qualification of $250, or paying $50 rent per annum, or having an income of $480. Religion is well provided for by denominational bodies, but no state aid. There are 14 government primary schools, and a large number of other primary and secondary schools, for both European and native children, are aided and inspected by the government. There are still about 700,000 acres of crown lands unalienated. Over 400 miles of railway have been constructed. The capital is Pietermaritzburg; pop. 24,595. Pop. (1900) 929,970.

Natchez, a tribe of Indians, which resided in the W. part of Mississippi, near the banks of the Mississippi river. Irritated against the French, who in that region were incessantly encroaching on them, they rose, on Nov. 28, 1729, and murdered every Frenchman in the colony. On Jan. 28, 1730, they were attacked by the Choctaws under Le Sueur, and a few days after, Soubois, at the head of the French troops, completed the work of destruction. Part of the tribe escaped across the Mississippi river to the vicinity of Natchitoches, but their fortress could not long withstand the force sent against it. The chief and over 400 of the tribe were taken prisoners, and sold as slaves.

National Air, an air or tune characteristic of or peculiar to a particular nation or people.

National Assembly, the legislative assembly in France. When the nobility and clergy summoned with the Tiers Etat to the States-General declined to sit with the Commons, these declaring, on June 17, 1789, that they represented $\frac{96}{100}$ parts of the nation, assumed the name of the National Assembly.

National Cemeteries, the name given to establishments, instituted by Act of Congress, for the interment of United States soldiers who had fallen in battle or died in Confederate military prisons, and whose graves become, accordingly, a sacred National charge.

National Civic Federation, an Amercian organization, founded in 1902; the outgrowth of a number of local bodies. The primal purpose of the Federation is to encourage the study and discussion of all matters which deal with the welfare of the United States.

Nationalists, the term applied to the Irish political party whose programme includes the more or less complete separation of Ireland from Great Britain.

National Parks and Reservations, certain public lands of the United States which have been reserved from settlement, and are retained and improved by the United States government as National parks. The principal reservations are as follows:

The Yellowstone National Park.—A tract of land near the head waters of the Yellowstone river, in the States of Montana and Wyoming. It is 62 miles in length from N. to S., 54 miles in width from E. to W., and contains about 3,348 square miles, or 2,142,720 acres; its area is greater than that of the States of Delaware and Rhode Island combined.

The Casa Grande Ruin, located near Florence, in the Territory of Arizona, is one of the most noteworthy relics of a prehistoric age and people remaning within the limits of the United States. The land on which it is located is part of 480 acres reserved from settlement. It was discovered already in a ruinous condition by one Padre Kino in 1694, and since that time has been a subject of record by explorers and historians.

The permanent reservation at Hot Springs consists of four mountain reservations — Hot Springs Mountain, North Mountain, Sugar Loaf Mountain, West Mountain — and Whitting-

ton Avenue Reserve, having an aggregate area of 911.63 acres. The hot water issues from the base and side of the Hot Springs Mountain, and the actual quantity thereof is not known. That which is under control and being used to supply the bath houses amounts to about 507,000 gallons a day, and the amount collected and passed through the impounding reservoir about 350,000, making a total quantity of hot water under control of about 857,000 gallons a day.

Sequoia Park is located in Tulare co., Cal. Its area is about 250 square miles. General Grant Park is situated in Mariposa co., Cal., and contains about four square miles. In these reservations are found the finest known specimens of the famous "big trees" of California.

Yosemite National Park is situated in Tuolumne, Mariposa, and Mono cos., Cal., and covers an area of about 1,512 square miles, being 36 miles wide and about 42 miles long.

In addition to the above the government has reserved a number of localities because of their large public interest, such as the Chickamauga, Gettysburg, and San Juan (Cuba) battlefields.

National University, known as the Carnegie Institute, an institution incorporated Jan. 4, 1902, in Washington, D. C. The aims of the university are: (1) To increase the efficiency of the universities and other institutions of learning throughout the country by utilizing and adding to their existing facilities, and by aiding teachers in the various institutions for experimental and other work in these institutions as far as may be advisable. (2) To discover the exceptional man in every department of study, whenever and wherever found, and enable him by financial aid to make the work for which he seems specially designed his life work. (3) To promote original research, paying great attention thereto, as being one of the chief purposes of this institution. (4) To increase the facilities for higher education. (5) To enable such students as may find Washington the best point for their special studies to avail themselves of such advantages as may be open to them in the museums, libraries, laboratories, observatory, meteorological, piscicultural, and forestry schools and kindred institutions of the several departments of the government. (6) To insure the prompt publication and distribution of the results of scientific investigation, a field considered to be highly important.

Nations, Law of. By national law, or the law of nations is to be understood that portion of public law which concerns the rights, duties, and obligations of nations.

Natural Bridges, tunnels eaten through rocks by streams, etc. There are 10 of these natural curiosities in various parts of the United States; that of Virginia being the most celebrated. The arch of this one is 60 feet spring, depth 200 feet, crown 40 feet thick. In Walker co., Ala., is a natural bridge in which the stone is so stratified as to resemble masonry. In Trinity co., Cal., a small river runs for 3,000 feet through an arch of 80 feet span and 20 feet high. In Adams, Berkshire co., Mass., the Hudson brook flows for 30 rods under an arch of white marble. At the village of Natural Bridge, N. Y., Indian river flows through a series of arches.

Natural Gas, carburetted hydrogen, issuing from the earth in springs or wells. The fire damp of coal mines is practically the same gas, which was produced during the formation of the coal from vegetable matter and is set free by the miner's pick. The first extensive use of this gas was at Fairview, Pa. In 1875 it was first applied to iron smelting; and in 1886 it was brought to Pittsburg, Pa., from a reservoir 19 miles distant and introduced as a substitute for all other kinds of fuel, for domestic and economical purposes.

Natural History, in the widest sense, and as used by the ancients, that branch of knowledge which included all natural science, and had the Cosmos for its subject. In more recent times its range was limited to zoölogy; now again, its bounds are extended, and it may be defined as the science which deals with the earth's crust and its productions.

Naturalization, in law the act of placing an alien in the position, or investing him with the rights and privileges of a natural-born subject. The

naturalization laws of the United States are wholly the fabric of the Federal government, while the privileges attendant, so far as regards suffrage, etc., are left to the discretion and gift of the various State legislatures. In some of the States a foreigner who has declared his intention to become a citizen is permitted to vote, while in others none but full-fledged citizens are admitted to that privilege.

Natural Philosophy, a term still frequently employed to designate Physics, or the branch of physical science which has for its subject those properties and phenomena of bodies which are unaccompanied by any essential change in the bodies themselves.

Natural Theology, as ordinarily understood, that branch of theology, or that system of theology, which derives nothing from revelation or revealed religion — that is, from the Bible — but is given us through the light of nature and reason alone.

Nature Worship, a generic term to denote a stage of religious thought in which the powers of nature are personified and worshiped. It found its most beautiful expression in the mythology of ancient Greece.

Naumachy, in Roman antiquities, a representation of a naval engagement, which took place most usually in theaters made for the purpose. These exhibitions were originally instituted for the purposes of naval discipline; but, in process of time, only malefactors or captives whose lives had been forfeited acted in them. They appear to have been conducted on a scale of such magnificence as almost to exceed belief. In the sea fight on the lake Fucinus, given by Claudius, there are said to have been no fewer than 19,000 combatants.

Nautilus, in ordinary language, a name popularly applied to two very different animals: the paper nautilus, and to the pearly nautilus, for a long period the only known species. Three species are known, all from the Pacific and Indian Oceans.

Navajo Indians, a half civilized tribe inhabiting the N. part of Arizona and New Mexico, where they have a fine reservation. They have considerable native civilization, and weave blankets, which are prized highly throughout the Southwest. While not an aggressive tribe, they have frequently been at war with the whites. They number about 11,850.

Naval Academy, United States, a technical, educational institution, established in Annapolis, Md., by Act of Congress, in 1845, through the exertions of George Bancroft, then Secretary of the Navy. It was formally opened Oct. 10 of that year, with Commander Franklin Buchanan as superintendent. During the Civil War it was removed from Annapolis, Md., to Newport, R. I., but was returned to the former place in 1865. It is under the direct supervision of the Bureau of Navigation, Navy Department. The course of naval cadets is six years, the last two of which are spent at sea. They enter the academy immediately after passing the prescribed examinations, and are required to sign articles binding themselves to serve in the United States navy eight years (including the time of probation at the Naval Academy), unless sooner discharged. The pay of a naval cadet is $500 a year, beginning at the date of admission. The object of the Naval Academy is to train officers for the navy.

Naval Fleet. The fleet of a navy when prepared for conducting active warfare comprises a great variety of types of ships. Among the many classes are:

Monitors.— The best type of modern harbor-defense vessel undoubtedly is the monitor. Its chief advantage lies in the fact that so little of the vessel is out of water.

Cruisers.— The cruiser has a much wider sphere of action. It is designed to prey on the enemy's commerce and drive it from the sea, to ravage his coast at unprotected points, and to wage minor wars in distant waters. Great size is a desideratum, great coal-carrying capacity a necessity, and highest speed indispensable. Even her armament must be subordinated to these, for her duty is primarily to ascertain where the enemy is, and having done so, hasten at topmost speed to impart this information to the fighting fleet.

Protected and Armored Cruisers.— A protected cruiser is not an armored

ship, but the protection of the cruiser is horizontal, in the form of a steel deck covering over the interior of the ship at her water-line, and curved down at the sides. All recently constructed cruisers are protected. The unprotected cruiser is a cruiser without this steel deck, and the partially protected cruiser has the steel deck over only engines, boilers, and magazines. An armored cruiser, always so designated in contradistinction to a cruiser, is a type of ship midway between the cruiser and the battleship. Sometimes she inclines more to the one than to the other. The title armored cruiser indicates quite well what is expected of this type of warship — to cruise and to fight. She must have good speed, large coal capacity, moderately thick armor, and an excellent battery.

Battleships.— The great fighting unit in a fleet is the battleship. Her armor is the most invulnerable, her guns are the heaviest, and the qualities of the cruiser and armored cruiser are more or less subordinated to secure this preponderance of protection and armament. The most noticeable thing in recent naval construction, however, is the narrowing of the difference between the battleship and the armored cruiser. The latter, in some cases, now equals the largest battleship in displacement, while the latest battleships have very nearly the speed of the fastest armored cruisers. The battleship is common to all navies the world over, the monitor is found only in the United States.

Torpedo Craft and Sentries.— The torpedo boat is a good craft for coast-defense work, and in smooth water on a dark night she may shoot her bolt with effect, but she is of little use in heavy weather; and further, since the torpedo-boat destroyer — merely an immense torpedo boat — has been pitted against her, the sphere of usefulness of the boat has been much restricted. The destroyer can keep the sea, can go at high speed, and can work with the fleet.

Tugs.— Those improvised sentries which have lately been added in great numbers to the fleet of the United States, steam about within 5 to 10 miles of a squadron, watching carefully for night attacks from torpedo boats and other night hawks.

Gunboats. — The regularly constructed gunboat is a larger craft, partaking of the nature of a cruiser. The gunboat proper is but a small cruiser, in which speed and coal-carrying capacity are slighted in order to permit of the mounting of a strong battery. The duties of the gunboats are quite like those of cruisers, though not so extensive. When fleets go to war they must be accompanied by many auxiliary vessels, non-combatants, but none the less indispensable to the welfare of the squadron. For instance the boilers of modern men-of-war should be fed with fresh water. On the blockade and away from bases, cruising, this is not obtainable; the time and coal needed to condense water cannot be spared, hence—

Distilling Vessels.— These are a component part of a well equipped war fleet. Such auxiliaries mount but a couple of small guns to repel boat attacks.

Repair Ships.— A repair ship is another important adjunct. Such a ship is fitted up like a machine shop, carrying spare plates, tools and extra portions of machinery.

Hospital Ships.— With the fleet there is also a hospital ship, fitted with wards, operating rooms, modern appliances for surgical operations and for caring for the sick and carrying a large corps of trained nurses. In the United States navy this ship is painted white and flies the Red Cross flag, so that the foe may know her mission is sacred. She is absolutely unarmed.

Colliers.— Most important, however, of all these auxiliaries is the collier. Indeed, the limit of offensive sea operations is the limit of the coal. Stop the supply of coal and the fleet must give over fighting on the sea and return home. A collier carries nothing but coal, everything being sacrificed to make room for bunkers and the machinery to take in and eject coal most expeditiously.

Refrigerating Ships.— Still another adjunct is the refrigerating ship, with an ice manufactory on board and immense cold-storage rooms for carrying fresh food.

Naval Order of the United States, an organization composed of a General Commandery and commanderies in several States. The General Commandery meets triennially on Oct.

5, and the State Commanderies meet annually in the month of November. The Massachusetts Commandery is the parent Commandery, and was organized at Boston on July 4, 1890. The General Commandery was established three years later, on June 19, 1893. The companions of the order are officers and the descendants of officers who served in the navy and marine corps in any war or in any battle in which the naval forces of the United States have participated.

Naval Veterans, National Association of, an organization founded by delegates from the various associations of naval veterans throughout the Union at a meeting held in the city of New York, in January, 1887. Any officer, appointed or enlisted man who has served in the United States Navy, United States Marine Corps, or United States Revenue Marine service, during any portion of the time between April 12, 1861, and Aug. 25, 1865, who has not borne arms against the United States, or been convicted of any infamous crime, and who has been honorably discharged or resigned by an honorable acceptance of resignation, is eligible to membership.

Navassa, an island in the Caribbean Sea, between San Domingo and Jamaica; length about 2 miles; width 1½ miles; altitude 300 feet. The shore line consists of perpendicular cliffs, and small shrubs constitute the chief vegetation. An act of Congress passed Aug. 18, 1856, provides that whenever any citizen of the United States shall discover a guano deposit on any island, not belonging to any other government, and shall take peaceable possession of the same and occupy it, then such island may, at the discretion of the President, "be considered as appertaining to the United States." On the island of Navassa a deposit of guano, estimated to amount to 1,000,000 tons, was discovered by Peter Duncan, an American citizen, in 1857, and subsequent action on the part of the President was held by the Supreme Court to amount to a determination that the island should be considered "as appertaining to the United States." In September, 1889, a riot occurred, in the course of which one, Jones, killed Thomas N. Foster. Jones was brought from Navassa to Baltimore, and indicted by the Federal grand jury for the crime of murder. He was tried in the Circuit Court of the United States and convicted, and after sentence of death a writ of error was sued out. It was claimed that the United States had no jurisdiction, and this was held by the Supreme Court to be untenable, the judgment of death against Jones was affirmed. The sentence was commuted to imprisonment for life in 1891.

Navel, in anatomy, the cicatrix of the umbilicus which causes a narrow and deep impression on the surface of the abdomen; it marks where the fœtus was attached to the placenta by the umbilical cord.

Navies and Navigation. The original of the art of navigation is lost in antiquity, but we know that it was practised with considerable skill by the ancient Egyptians and the Phœnicians, the latter of whom were distinguished as a great commercial and seafaring people long before the rise of Greece or Rome. Their most ancient city and seaport, Sidon, on the shore of the Mediterranean, is mentioned in Genesis. Tyre, which was a colony from Sidon, was a flourishing commercial city as early as 1200 B. C. From the beginning of the historic period Tyre was the chief city of the Phœnicians. The enterprise of the Phœnicians was directed to the sea, and they pushed their commerce on it with a spirit and daring which, considering their opportunities, has never been surpassed. They are the first who are known to have steered by the observation of the stars and who could thus venture out to sea. They ultimately adopted two distinct kinds of vessels; the trireme or ship of war, and the gaulos or merchant vessel, with a deep hold.

On the fall of the Roman empire naval enterprise declined, but only for a brief period. The honor of reviving it is disputed by the French and the Italians. To the latter belongs the honor of leading the way in the development of modern European commerce. Charlemagne had a considerable fleet both on the Mediterranean and the ocean; but the settled States of Europe had begun to become subject to the piratical excursions of Northmen and Danes.

In the meantime the Italian republics of Venice and Genoa began to restore the commerce of the Mediterranean. The Pisans and Florentines followed, and in the time of the Crusades the chief naval armaments of the Christians were supplied by the Italian cities. The great naval battles of these times were fought among the Italian republics, or by them against the Turks, with whom they alternately traded and made war.

After the epoch of the Crusades we have a period extending to the present time. The honor of leading the way in this new epoch belongs to the Portuguese. They were followed by the Spanish, the English, the Dutch, the French, and ultimately by all the other nations of Europe, according to their means and opportunities.

One of the earliest discoveries and the most important to the progress of navigation was that of the polarity of the magnet, which led to the construction of the mariner's compass. It was known from time immemorial to the Chinese, but like most of the discoveries of that people, it remained buried among themselves, and for the purposes of civilization practically inoperative. The merit of discovering or introducing it in Europe has been attributed to Flavio Gioia, born about 1290, but it was probably known before his time. The skill of the Portuguese navigators, fostered by their kings, and especially by Prince Henry, surnamed the Navigator (1394–1460), led to an important series of improvements, which the emulation of other nations tended to perfect. The use of the astrolabe to discover the latitude from the elevation of the pole star originated with Henry or his assistants. He also caused charts to be made according to the knowledge of his day. From this time the progress of navigation was rapid.

Navigation Laws. Very little change has been made in the navigation laws of the United States since their adoption in 1792–1793. The main features of these laws may be summed up as follows: No vessel, unless entirely built in this country and wholly owned and officered by Americans, is considered an American vessel having the right to be protected by the American flag. No foreign vessel is permitted to engage in the American coasting trade, the same extending from Atlantic to Pacific ports. American vessels are no longer considered as such if even a part-owner resides abroad for a short time. Transfer of an American vessel to foreigners prohibits it from ever again sailing under the American flag. If an American vessel makes any repairs in a foreign port, duty must be paid on the value of all such repairs on her return to this country. A tax of six cents per ton of their burden, called a tonnage tax, is imposed on all vessels (except fishing and pleasure vessels) engaged in trade to ports not in North or Central America, the maximum aggregate tax in any one year not exceeding 30 cents. Foreign vessels pay the same tax, but if one of the officers of an American vessel is a foreigner, it is forced to pay an additional tax of 50 cents. Materials for the construction of vessels for foreign trade may be imported free of duty, but the duty must be paid if the vessel engages for more than two months a year in the coasting trade. American vessels may unload at any port of delivery in the customs district, but foreign vessels can only discharge their cargoes at a port of entry. Exceptions are made when they are laden with coal, salt, etc., in bulk.

Navy, a fleet; the shipping of a country collectively; the war-ships belonging to a country collectively; the naval establishment of a country, including the ships, officers, men, armaments, etc., intended for use in war.

Navy, Department of the, an executive department of the United States government, created in 1798. The Secretary of the Navy is a member of the Cabinet, appointed by the President and confirmed by the Senate. His salary is $8,000. To this department belongs the charge of the vessels, navy yards, guns, and whatever belongs to the navy. Under its supervision is the hydropathic office, in which charts, sailing directions for the use of steamers and the "Nautical Almanac," are prepared. The Department consists of a number of Bureaus the heads of which are chosen from active officers. They hold office four years and draw the sea-pay of their rank, not less than commodore.

Navy Yards. The principal navy yards owned and operated by the United States government are as follows: New York (Brooklyn, N. Y.); Mare Island, Cal.; Norfolk (Portsmouth, Va.); Portsmouth, N. H. (Kittery, Me.); Boston (Charlestown, Mass.); League Island (Philadelphia); Washington, D. C.; and Pensacola, Fla. Besides the navy yards there are several naval stations, the important ones being at Boston, Mass.; Newport, R. I.; Indian Head, Md.; Norfolk, Va.; Bremerton, Wash.; Port Royal, S. C.; Portsmouth, N. H.; Philadelphia, Pa.: Cavite, Philippines; San Juan, Porto Rico; Tutuila, Samoa; Guam, Ladrones; Havana, Cuba; Honolulu, Hawaii; Sitka, Alaska; and Yokohama, Japan. In the early history of the United States navy, nearly all the vessels were built and equipped at the navy yards. The six wooden frigates used in the Civil War were there constructed, but the modern steel warships have been built chiefly by contract, by private builders, so that the navy yards now are used mainly for repairs.

Naxos, or **Naxia,** an island of the Grecian Archipelago, the largest of the Cyclades; length 18 miles; breadth, 12 miles; area, 164 square miles; pop. about 15,000. Chief town is Naxia (or Naxos).

Nazarenes, a name applied reproachfully to the early Christians by the Jews. Also a heretical sect from among the Judaizing Christians of Hebrew descent, so frequently in conflict with St. Paul, which arose about the end of the 1st century.

Nazareth, the home of Jesus, anciently in the district of Galilee, 21 miles S. E. of Acre, still a small but flourishing town of Palestine. It lies in a hilly tract of country, and is built partly on the sides of some rocky ridges. In the earliest ages of Christianity Nazareth was quite overlooked by the Church. The principal building is the Latin convent, on the supposed scene of the Annuncation; but the Greeks have also erected on another spot a church in commemoration. The women of the village have long been famous for their beauty.

Nazarite, in the Jewish Church, a man or woman set apart by a vow for the service of God, either for a definite period or for life. The hair was allowed to grow, the fruit of the vine in any shape was forbidden, and no Nazarite might approach a corpse.

Neal, John, an American poet and author; born in Falmouth, Mass., now Portland, Me., Aug. 25, 1793. He was a member of the Society of Friends, but left it at 25. Later in life he figured as editor, lecturer, lawyer, poet, novelist, and teacher of gymnastics. He died in Falmouth, Mass., June 21, 1876.

Neal, Joseph Clay, an American journalist and humorist; born in Greenland, N. H., Feb. 3, 1807. He was editor of the "Pennsylvanian" 1831–1844, when he founded the "Saturday Gazette." He died in Philadelphia, Pa., July 18, 1847.

Neap Tides, those tides which happen in the middle of the second and fourth quarters of the moon, taking place about four or five days before the new and full moons. They occur when the attractions of the sun and moon act on the waters of the ocean at right angles to each other.

Nebo, a mountain of Moab, whence Moses had a view of the Promised Land, and where he died. It is a summit of the range Abarium, "over against Jericho." Travelers do not observe any very prominent summit in the range immediately opposite Jericho; but it has not yet been fully explored. In Babylonian mythology, an idol which probably represented the planet Mercury. It was also worshiped by the ancient Arabians.

Nebraska, a State in the North Central Division of the North American Union; admitted to the Union, March 1, 1867; capital, Lincoln; number of counties, 90; area, 76,840 square miles; pop. (1900) 1,068,539.

The State is situated in the great central plain of North America, and has a flat or undulating surface, with a slight inclination S. E. On the N. W. is an extensive desolate tract of land known as the Mauvaises Terres or Bad Lands, rich in interesting fossil remains. Timber has been extensively planted here of late. The principal rivers are the Missouri, which forms the boundary on the E.; its great affluent, the Nebraska or Platte,

which, formed by two main forks, from the Rocky Mountains, traverses the territory in an E. direction; and the Republican Fork of Kansas river, traversing the S. part of the State.

The mineral deposits are not extensive. Coal occurs in places in layers ranging from 5 to 22 inches. Building stones are quarried in places, including a yellowish gray limestone, a magnesium limestone, capable of taking a high polish, and the blue Trenton limestone. Lignite, marble, lime, gypsum, rock salt, and peat are found in limited quantities all over the State. Considerable clay for brick and pottery is obtained in the central and W. parts of the State.

The soil, excepting in the N. W. is a deep, rich loam underlaid by a porous clayey subsoil, and is admirably adapted to withstand drought. The climate is equable, and on the whole fine. The forest trees include cedar, linden, cottonwood, hackberry, pine, and spruce. Considerable attention is paid to forestry. The principal growth of timber, cottonwood, is found along the river banks.

The even temperature, fertile soil, and extensive farm area, make Nebraska an important agricultural State. The principal farm crops are corn, wheat, oats, potatoes, hay, barley, rye, and buckwheat.

In 1900 there were reported 5,414 manufacturing establishments, employing $71,982,127 in capital and 24,461 persons; paying $11,749,706 for wages and $102,197,707 for materials; and having an annual output valued at $143,990,102.

On Oct. 31, 1901, there were 118 National banks in operation, having $10,082,500 in capital, $4,584,037 in outstanding circulation, and $4,312,620 in United States bonds. There were also 421 State banks with $7,080,596 in capital, and $1,168,771 in surplus; 6 private banks with $118,600 in capital, and $28,115 in surplus; and 2 loan and trust companies with $55,000 in capital and $41,180 in surplus. The exchanges at the United States clearing house at Omaha, for the year ending Sept. 30, 1901, aggregated $324,956,116.

At the close of the school year 1899–1900 the children of school census age numbered 321,800; the enrollment in public schools, 288,227; and the average daily attendance, 181,874. There were 9,463 teachers, 6,733 buildings used for school purposes, and public school property valued at $9,591,135. The expenditures for the year amounted to $4,403,222, and the receipts, $3,984,640. For higher education there were 233 public high schools; 15 private secondary schools; the State Normal School of Nebraska, at Peru; Fremont Normal School, at Fremont; Lincoln Normal University, at Lincoln; the Santee Normal Training School, at the Santee Agency; and the Nebraska Normal College, at Wayne.

The strongest denominations in the State are the Roman Catholic; Methodist Episcopal; Lutheran; Synodical Conference; Presbyterian, North; Regural Baptist, North; Congregational; Disciples of Christ; Lutheran, General Council; and United Brethren.

On Jan. 1, 1901, the total length of railroads within the State was 5,701 miles, of which 193 miles were completed during the previous year.

In 1901 the State had no bonded debt, the last payment of $35,000 having been made on June 3, 1900. On Dec. 1, 1900, the general fund warrants outstanding amounted to $1,727,509, and the cash in the treasury was $615,018. There is a permanent school fund of $4,365,544, and the State indebtedness is restricted by law to $100,000 to meet the casual deficits in revenue. The total assessed property valuation in 1900 was $117,747,592 and the tax rate, $7.25 per $1,000.

The governor is elected for a term of two years and receives a salary of $2,500 per annum. The Legislative sessions are held biennially in odd years, beginning on the first Tuesday in January and are limited to 60 days each. The Legislature has 33 members in the Senate and 100 in the House, each of whom receives $300 per annum, and mileage. There are 6 representatives in Congress.

Nebraska was originally a part of the Louisiana Purchase, and was for a long time part of the Northwest Territory. The overland emigration to California in 1849 brought about a general settlement of this region, and a Territory was organized in 1854 under the Kansas-Nebraska Bill. From

the area of this Territory were taken part of Colorado, Montana, Wyoming, and the Dakotas. In 1867 the Union Pacific railroad was completed across Nebraska, the Territory was admitted to the Union as a State, and the capital was removed from Omaha to Lincoln.

Nebraska, University of, a coeducational non-sectarian institution in Lincoln, Neb.; founded in 1869.

Nebraska Wesleyan University, a coeducational institution in University Place, Neb.; founded in 1887 under the auspices of the Methodist Episcopal Church.

Nebuchadnezzar, Nebuchadrezzar, Nabuchodonosor, or **Nebucodonosor,** a king of Assyria, who lived in the 7th century B. C. The chief events of his reign were his defeat of the Medes under their king Arphaxed, and his sending a force of 120,000 foot and 12,000 horse, under Holofernes, against Israel.

Nebuchadnezzar, or **Nabopolassar,** a king of Babylon, who reigned from 626 to 605 B. C. He united with Astyages in the conquest of Syria, and founded the second Syrio-Babylonian empire.

Nebuchadnezzar, or **Nebuchadrezzar,** surnamed The Great, a king of Babylon, the son and successor of the preceding. He entered on a war, by which he extended his empire over the greater part of Asia, and from the Caucasian Mountains in the N. to the Great Desert of Africa in the S. He defeated the Edomites and Ammonites, took Jerusalem, and led the inhabitants captive to Babylon. His vassal king of Judah, Jehoiachin, having revolted, he deposed him, and put an end to the kingdom of Judah. He next turned his arms against Tyre, which after an obstinate resistance of more than 12 years, he finally took, and which, with Egypt and Persia, made his empire and power enormous. It was to this king that the Jewish captive Daniel interpreted the dream that so truly foreshadowed the fall and ruin of his empire. The celebrated hanging gardens of Babylon, one of the seven wonders of the world, were executed by this monarch, to please his beautiful wife, a Median princess. He died 562 B. C.

Nebula, plural **Nebulæ,** in astronomy, a slight cloudy patch of light, retaining its form unchanged except under keen and long-continued observation. More than 8,000 nebulæ, or star-clusters closely resembling them, have been found in both hemispheres, and in nearly every constellation. A few are visible on very clear nights to the naked eye; the rest are telescopic.

Nebular Hypothesis, in astronomy, a hypothesis first suggested by Sir William Herschel. It was developed by La Place, with whose name it came to be associated. The hypothesis assumes that originally all suns were in a nebulous or ultra-gaseous state. The nebulous matter from which they were originally formed was at first scattered pretty uniformly through all space, but ultimately began to gravitate toward certain centers. The particles moving toward these centers not doing so with equal velocities or in the same direction, rotation would be established in the entire nebulous mass, and the spherical form produced. If, by radiation of heat, the condensed body still further contracted, its velocity would increase. If the centrifugal force overcame that of gravity, a ring would be thrown off, which would gradually become globular, in fact it would be a planet with an orbit almost or quite circular, moving in a plane nearly that of the central body's equator and revolving in its orbit in the same direction in which the central globe rotated. Further contraction producing increased velocity, ring after ring would be cast off, till the central body or sun generated a whole system of planets revolving around it. They, in turn, might in the same way produce satellites. La Place believed that the sun thus produced our earth and the other attendant planets. On this hypothesis the rings of Saturn were produced by Saturn himself, and have remained in the annular form instead of condensing into nearly spherical satellites.

Necessity, Fort, a defensive work near the site of the present borough of Union, in Fayette co., Pa.; built by Washington in 1754.

Necker, Jacques, a French statesman; born in Geneva, Switzerland, Sept. 30, 1732. In 1765 he was ap-

pointed syndic of the French East India Company; in 1775, director of the royal treasury, and was twice director-general of the finances of France. But the Revolution, which all his efforts were unable to check, obliged him to retire to Switzerland. Necker wrote three volumes on the finances of France, a book on the influence of religious opinions, and other works. He married the daughter of a Protestant clergyman, by whom he had a daughter, Madame de Stael-Holstein, the wife of the Swedish ambassador. She afterward became celebrated by the name of Madame de Stael. He died in Coppet, Switzerland, April 9, 1804.

Necromancy, the divination of the future by questioning the dead. This superstition originated in the East, and is of the highest antiquity. Mention is made of necromancy in the Scriptures, where it strongly condemned. In the "Odyssey" Homer has made Ulysses raise the shade of Tiresias from the infernal regions. In many parts of Greece there were oracles of the dead, the origin of which is lost in the obscurity of history. Though this practice has been condemned by the Christian Church from the very first, it has not yet entirely ceased. Modern spiritualism embodies all the elements of necromancy. The term is often extended so as to include the general art of magic.

Necropolis, a Greek term, meaning "the city of the dead," and applied to the cemeteries in the vicinity of ancient cities.

Necrosis, a word used as synonymous with mortification or gangrene; but it is more commonly used in surgery to denote the death or mortification of a part or the whole of a bone. Necrosis differs from caries of a bone, inasmuch as in the latter case the vitality of the bone is only impaired, not destroyed, as in the former; in the same way an ulceration of the soft parts differs from gangrene. Necrosis is found in either sex, and at all periods of life, and may be occasioned either by external causes, as fractures, contusions, etc., or by internal or constitutional causes, as a debilitated or deranged habit of body. When a portion of a bone becomes dead, it is regarded as an extraneous substance.

Nectar, in Greek mythology, the supposed drink of the gods.

Nectarine, a fruit which differs from the peach only in having a smoother rind and firmer pulp, being indeed a mere variety of peach.

Needle, a small instrument of steel pointed at one end, and having an eye or hole in it through which is passed a thread, used for sewing.

Needle Gun, a firearm which is loaded at the breech with a cartridge carrying its own fulminate, and which is ignited by a needle or pin traversing the breech-block driven by a spiral spring, or struck by the hammer.

Needles, The, a cluster of insulated chalk rocks in the English Channel, off the W. extremity of the Isle of Wight. They owe their name to their pyramidal and pointed shape. The Needles Lighthouse, on the most W. of the group, has an occulting light 80 feet above high-water, visible for 14 miles.

Ne exeat (Latin for let him not go out), in law a writ to restrain a person from leaving the country, originally applicable to purposes of state; now an ordinary process of courts of equity, resorted to for the purpose of obtaining bail or security to abide a decree.

Negley, James Scott, an American military officer; born in Liberty, Pa., Dec. 22, 1826; served as a private in the Mexican War; and when the Civil War broke out in 1861 raised a brigade in eight days, of which he was made Brigadier-General; was in the Army of the Ohio, and took part in the battles in Alabama and Tennessee; commanded the Union forces at the battle of Lavergne, Tenn., when the Confederates under Anderson and Forrest were defeated; was promoted Major-General of volunteers for gallant conduct at Stone river; resigned his command shortly after the battle of Chickamauga, and for many years lived in Plainfield, N. J., where he died Aug. 8, 1901.

Negritos, the name given to certain Negro-like tribes inhabiting the interior of some of the Philippine Islands, and differing both in features and manners from the Malay inhabitants of the Eastern Archipelago. They seem to be more closely akin to the Andaman Islanders than to either

Papuans or any other stock; and are also known as Aetas or Itas. The name is also used in a wider sense for the Papuans and all the Melanesian peoples of Polynesia.

Negro, the distinctively dark, as opposed to the fair, yellow, and brown varieties of mankind. Their original home was probably all Africa S. of the Sahara, India S. of the Indo-Gangetic plains, Malaysia and the greater part of Australasia. In early and middle Tertiary times this tract was probably broken up by the sea and the disappearance of the region named by Sclater Lemuria. Negroes fall naturally into two great divisions: (1) African Negroes, (2) Papuans or Melanesians. Prof. A. H. Keane makes four sub-divisions of African Negroes, according to locality: (1) West Sudan and Guinea; (2) Central Sudan and Chad Basin; (3) East Sudan and Upper Nile; (4) South Africa. He estimates their number at 130,000,000, with probably 20,000,000 full-blood or half-caste Negroes, either slaves or descendants of slaves, chiefly in America.

Negros, an island in the Philippine group, between Panay and Cebu; area, 5,191 square miles; pop. 240,000. In the S. W. part is the mountain chain of Sojatas, and lying N. and N. E. of this are large plains cut by numerous rivers. The interior has not been explored. The island is divided into two provinces, Western and Eastern Negros. The former is very fertile, and owing largely to the work of various European settlers, is in the front rank of all the provinces of the archipelago. The Eastern province, while not so fertile, produces large crops of sugar cane, hemp, rice, cocoa, and cotton. The forests of the island furnish an abundance of fine building woods, among them teak. On the sea shores are numbers of shell fish, tortoise shell, lagan, sea cucumbers, etc., while near the W. coast deposits of excellent coal have recently been discovered. Bacolod is the capital of the Western province, and has a number of fine public and private buildings; population, 6,268. There are over a score of cities with a population of 10,000 and over.

Nehemiah, three persons of this name are mentioned in Scripture; One who came with Zerubbabel from Babylon (Ezra ii: 2; Neh. vii: 7); another, the son of Azbuk (Neh. iii: 16); and lastly the celebrated Jewish leader, the son of Hachaliah (Neh. i: 1), and brother of Hanani (i: 2, vii: 2). In the 20th year of the reign of Artaxerxes Longimanus, King or Emperor of Persia (445 B. C.). he was cupbearer to the monarch. Questioned as to why he looked sad, he replied that his sorrow arose from the reflection that the city (Jerusalem), the place of his ancestors' sepulchers, lay waste, with its gates burnt (Neh. ii: 3). He requested permission to rebuild the city, and was allowed temporary leave of absence to carry out the project. Carrying with him letters from the king, designed to secure coöperation from various quarters he proceeded to Jerusalem, obtained zealous assistance from his countrymen, and, notwithstanding Samaritan and other opposition, rebuilt the wall. An inscription in the earliest Hebrew, discovered in 1880 in the tunnel cut through the rocks which conducts the water of the Virgin's Spring, the Gihon of Scripture, into the modern pool of Siloam, has become the starting point for comprehending the topography of Jerusalem in the times of the kings and in that Nehemiah. Mount Zion is now fixed as the hill on the S. W. slope of which is the Pool of Siloam. The valley of the Tyropœon of the Græco-Roman age, was the Valley of Hinnom. The size of Jerusalem was only 50 acres, but it had crowded into it under Nehemiah 15,000 Jews and 5,000 slaves. In 433 B. C. Nehemiah returned to Persia, but that year or the next was a second time appointed governor of Judæa. The date of his death is unknown.

Neilson, Adelaide, an English actress; born in Leeds, Yorkshire, England, March 3, 1848. Her real name was Elizabeth Ann Brown, though she was also sometimes called Lizzie Bland (Bland being the name of her step-father). She made her debut as Juliet when only 17 years old. She appeared as Amy Robsart in 1870, in London, with immense success, and by 1878 stood at the head of her profession. In 1872 she came to the United States, playing in Booth's theater, New York, and in Boston, where she

was equally successful. She made four visits to the United States, her last one being in 1880. She died in Paris, France, Aug. 15, 1880.

Nejd, or **Nejed** (Arabic, "elevated country"), a term sometimes used as an element in Arabic place-names, but used absolutely to signify the country in the interior of Arabia forming the Central Wahabi kingdom. A great part of its surface is sandy desert interspersed with fertile spots. The more elevated districts feed immense droves of camels and the best breeds of Arab horses. Chief town Riad, the Wahabi capital; pop. about 28,000. It is a remarkable fact that the present conditions in the powerful Wahabi kingdom are unknown to the world at large.

Nelson, Edward William, an American naturalist; born in Manchester, N. H., May 8, 1855; was graduated at the Cook County Normal School, Chicago, Ill., in 1875; spent four years (1877–1881) in scientific research in Alaska, and returned in time to join the Arctic expedition of the United States revenue steamer "Corwin." In 1890 he was a member of the Death Valley expedition, and from 1892 to 1901 most of his time was spent in scientific researches in Mexico. He is a member of various scientific societies, and author of "Report on Natural History Collection made in Alaska"; "The Eskimo about Bering Straits," etc.

Nelson, Henry Loomis, an American journalist and author; born in New York city, Jan. 5, 1846; was educated at Williams College; admitted to the bar (1869); editor Boston "Post" (1885–1886); editor "Harper's Weekly" (1894–1898). Among his works are: "Our Unjust Tariff Law," and "The Money We Need." He is a writer of remarkable culture and accuracy.

Nelson, Horatio, Viscount, an English naval officer; born in Burnham Thorpe, Norfolk, England, Sept. 29, 1758. At the age of 12 he entered the navy as a midshipman, and in 1773 accompanied Commodore Phipps in an expedition toward the North Pole. In 1777 he was made a lieutenant, and in 1779 raised to the rank of post-captain. He distinguished himself in an attack on Fort Juan, in the Gulf of Mexico, and on other occasions, and remained on the American station till the conclusion of peace. He afterward commanded the "Boreas" frigate, and was employed to protect the trade of the Leeward Islands. On the commencement of the war with the French Republic he was made commander of the "Agamemnon," of 64 guns (1793), with which he joined Lord Hood in the Mediterranean, and assisted at the siege of Bastia (May, 1794). At the siege of Calvi (July 10, 1794) he lost an eye. For his gallantry at the battle of Cape St. Vincent (Feb. 14, 1797) he was made rear-admiral of the blue, and appointed to the command of the inner squadron at the blockade of Cadiz. His next service was an attack on the town of Santa Cruz, in the Island of Teneriffe, in which he lost his right arm. In 1798 he joined Lord St. Vincent (Admiral Jervis), who sent him to the Mediterranean to watch the progress of the armament at Toulon. Notwithstanding his vigilance, the French fleet which conveyed Bonaparte to Egypt escaped. Thither Nelson followed, and after various disappointments he discovered the enemy's fleet moored in the Bay of Aboukir, where he obtained a most complete victory, all the French ships but two being taken or destroyed (Aug. 1, 1798). This achievement was rewarded with the title of Baron Nelson of the Nile and a pension of $10,000. His next service was the restoration of the King of Naples, which was accompanied with circumstances of revolting cruelty, generally attributed to the influence of Lady Hamilton, the wife of the English ambassador. In 1801 he was employed on the expedition to Copenhagen under Sir Hyde Parker, in which he effected the destruction of the Danish ships and batteries. On his return home he was created a viscount. When hostilities recommenced after the Peace of Amiens, Lord Nelson was appointed to command the fleet in the Mediterranean, and for nearly two years he was engaged in the blockade of Toulon. In spite of his vigilance the French fleet got out of port (March 30, 1805), and being joined by a Spanish squadron from Cadiz, sailed to the

West Indies. The British admiral hastily pursued them, and they returned to Europe and took shelter at Cadiz. On Oct. 19, the French, commanded by Villeneuve, and the Spaniards by Gravina ventured again from Cadiz, and on Oct. 21 they came up with the British squadron off Cape Trafalgar. An engagement took place in which the victory was obtained by the British, but their commander was wounded in the back by a musket ball, and shortly after expired. His remains were carried to England and interred in St. Paul's Cathedral.

Nelson, Samuel, an American jurist; born in Hebron, N. Y., Nov. 10, 1792; and graduated from Middleburg College; was admitted to the bar in 1817. In 1820 he was presidential elector; and three years later was appointed circuit judge, which post he held till 1831, when he became an associate justice of the Supreme Court of New York. In 1837 he was raised to the chief justiceship. In 1845 President Tyler appointed him to succeed Judge Smith-Thompson as an associate justice of the United States Supreme Court. In the celebrated Dred Scott case he agreed with Chief Justice Taney, holding that if Congress had power to abolish slavery, it also had equal power to establish it. In 1871 President Grant appointed him a member of the "Alabama" arbitration commission. He died in Cooperstown, N. Y., Dec. 13, 1873.

Nelson, Thomas, an American statesman; born in Yorktown, Va., Dec. 26, 1738. He was the son of William Nelson, president of the colonial council. Elected a member of the House of Burgesses when scarcely 21 years old, he was a member of the first convention which met in Williamsburg in August, 1774. He was a conspicuous member of the convention which met in Williamsburg, 1776, to frame a constitution for Virginia, was elected a delegate to the Continental Congress, and signed the Declaration of July 4, 1776. In 1777 he was appointed Commander-in-Chief of the forces of Virginia; and, in addition to his military duties, he was called, in June, 1781, to assume the functions of governor of the commonwealth. Being thus armed with executive and military power, he hastened with all the militia he could muster to oppose the enemy, who were ravaging the country, and did not hesitate to coöperate, as second in command, with the Continental troops under Lafayette. In November, 1781, the success of the American cause being then no more the object of doubt, Nelson resigned his office, and passed the rest of his life in retirement. He died in Hanover co., Va., Jan. 4, 1789.

Nelson, Wolfred, a Canadian physician; born in Montreal, Canada, July 10, 1792; studied medicine and received his degree in 1811. In the War of 1812 he volunteered as an army surgeon. He was a leader in the rebellion of 1837, and presided over the gathering known as the "Four Counties," where armed resistance to British rule was determined on. The insurrection was unsuccessful, and Dr. Nelson was captured and sentenced to imprisonment for life in the Bermudas. Later the House of Lords declared his transportation illegal. He was liberated, and in 1838 settled in the United States. In 1842 he was permitted to return to Montreal, where he was twice elected mayor. For a number of years he was president of the Medical Board and College of Surgeons of Lower Canada. He died in Montreal, June 17, 1863.

Nelson, Fort, a Revolutionary fort once defending Norfolk, Va., now the site of the United States Marine Hospital.

Nelumbium, the typical and only genus of the order Nelumbiaceæ. The species are remarkable for the beauty of their flowers. N. speciosum has magnificent flowers, magenta or white. It does not now grow in Egypt, but is round in India. The rhizome, stalks, and seeds are eaten by the Hindus. A fiber derived from the stalk is used as a wick for lamps in Hindu temples, the plant being considered sacred. The North American Indians eat the rhizomes of N. luteum.

Nemea, a valley in the Peloponnesus, celebrated for the Nemean Games, one of the Greek national festivals.

Nemean Games, in Greek antiquities, public games or festivals celebrated at Nemea, most probably triennially, in the Athenian month Boedromion (the modern August). The Argives were the judges at these

games, which comprised boxing and athletic contests, as well as chariot-races; and the conquerors were crowned with olive.

Nemesis, in Greek mythology, one of the infernal deities, daughter of Nox. She was the goddess of vengeance, always prepared to punish impiety, and at the same time, liberally to reward the good and virtuous. Nemesis was particularly worshiped at Rhamnus, in Attica, where she had a celebrated statue, 10 cubits long, carved in Parian marble by Phidias.

NELUMBIUM LUTEUM.

Neon, a recently discovered primary element existing in air. It was discovered by Ramsay and Collie, of England, who, in July, 1898, separated it from argon while experimenting with liquid air. Neon is a gas having a density of 14.67, and like argon, it is characterized by inertness.

Neophyte, a term applied in the primitive Church to the newly baptized. A special use of the word was to denote one who, not having passed through the inferior grades, was, in view of 1 Tim. iii: 6, considered canonically unfit to be consecrated bishop.

Nepa, water-scorpion. It is about an inch long, elliptical, yellowish-gray, with red on the abdomen. It preys on aquatic insects, and its bite is painful to man.

Nepal, an independent kingdom of India, on the S. slope of the Himalayas; bounded on the N. by Tibet, on the S. and W. by Bengal, and on the E. by Sikkim; lon. 80° 6′ — 88° 14′ E.; length 500 miles; breadth about 150 miles; area about 54,000 square miles; pop. est. 2,000,000–5,000,000. The N. parts of the State embrace the main range of the Himalayas with its offset spurs, on which stand the great peaks of Everest, Diwalagiri, etc. On the S. of the State lie the Terai. The intervening territory consists of mountain ridges, embracing several valleys drained by the Kurnali, Gandak, Kosi, and other rivers. The climate of course varies greatly according to the altitude; the principal valley has a climate like that of Southern Europe. The soil is very fertile, in some districts producing three crops in the year. The hillsides are terraced and the land is irrigated. The valleys are inhabited by numerous different hill tribes, partly aboriginal, partly of Mongolian or Chinese descent; but the dominant race are the Gurkhas, whose ancestors came to the Himalayan slopes from Rajputana in the 12th century, though it was not till 1769 that they made themselves masters of Nepal. The real ruler of the country is the prime minister; Sir Jang Bahadur held this office from 1846 to his death in 1877, and was succeeded by his son. But he was slain and supplanted by the head of a rival faction in 1885. Capital, Katmandu; pop. about 50,000.

Nepenthe, a magic potion, calculated to banish the remembrance of grief and enliven the spirits, and supposed to be opium. The first mention of it is in the "Odyssey" of Homer. Of modern poets, Milton and Pope are the principal who have alluded to it. The word is now used figuratively to express any remedy which gives rest and consolation to an afflicted mind.

Nepotism (Italian nepote, "a nephew") a word used to signify the system or custom practised by several Popes subsequent to Innocent VIII. of granting high honors, dignities, offices,

pensions, and the like to their family relations, generally their nephews, altogether irrespective of merit.

Neptune, in Roman mythology, the fabled god of the sea; the son of Saturn and Rhea, and the brother of Jupiter and Pluto. He is generally identified with the Greek Poseidon, and is variously represented; sometimes with a trident in his right hand, a dolphin in his left, and with one of his feet resting on part of a ship; at others in a chariot drawn by sea-horses, with a triton on each side. He was said to preside over horses and the manger.

In astronomy, a planet, the most remote of any yet discovered. Irregularities having been remarked in the movements of the planet Uranus, not to be accounted for by the attraction of any known heavenly body two astronomers, M. Leverrier in France, and Mr. Adams in England, correctly reasoning that the perturbations must proceed from a yet undiscovered planet, independently calculated the probable place in the sky which such a planet would occupy. On Sept. 20, 1846, Leverrier's calculations were communicated to Dr. Galle of Berlin, who promptly looked on the heavens, and the very same evening discovered the planet afterward named Neptune within a single degree of its calculated position. The diameter of Neptune is nearly 35,000 miles. Its density is only a fifth that of the earth, its mean distance from the sun 2,792,000,000 miles, and its year 165 times as long as one of ours. Mr. Lassell discovered that it has one satellite.

Nereis, sea-centipede. The species are numerous and widely distributed.

Nero, Lucius Domitius, called after his adoption Claudius Drusus, Roman emperor; born in Antium, Italy, Dec. 15, 37 A. D. He was the son of Cneius Domitius Ahenobarbus, and of Agrippina, daughter of Germanicus. He had the philosopher Seneca for his teacher; was adopted by Claudius, A. D. 50, and four years after succeeded him on the throne. At the commencement of his reign his conduct excited great hopes in the Romans; he appeared just, liberal, affable and polished; but this was a mask which soon fell off. He caused his mother to be assassinated, and vindicated the unnatural act to the Senate on the ground that Agrippina had plotted against him. He divorced his wife, and led a most shameless and abandoned life. In 64 Rome was burnt, and popular suspicion pointed to Nero as the author of the conflagration. He charged the Christians with it, and commenced a dreadful persecution of them. His cruelties, extravagance, and debauchery at length aroused the public resentment. Piso formed a conspiracy against the tryant, but it was discovered and defeated. That of Galba, however, proved more successful, and Nero being abandoned by his flatterers, put an end to his existence near Rome, June 9, 68 A. D.

Nerva, Marcus Cocceius, a Roman emperor; born in 32 A. D. He twice held the honor of consulship before his election to the dignity of emperor, and was elected by the Senate after the murder of Domitian, Sept. 18, A. D., 96. He displayed great wisdom and moderation, and rectified the administration of justice and diminished the taxes; but finding himself, on account of his advanced age, not vigorous enough to repress the insolence of the Prætorian Guards, he adopted M. Ulpius Trajanus, then at the head of the army of Germany, who succeeded him on his death, Jan. 27, 98.

Nerve, or Nervous System. A nerve is one of the fibers which proceed from the brain and spinal cord, or from the central ganglia of lower animals, and ramify through all parts of the body, and whose function is to convey impulses resulting in sensation, motion, secretion, etc. The aggregate of these nerves, and the centers from which they proceed, forms the nervous system, the medium through which every act or detail of animal life is inaugurated and directed.

The Invertebrata possess no such specialization of the nervous centers as is seen in vertebrates, in which the brain and spinal cord are inclosed within their bony case and canal, and thus shut off from the general cavity of the body. The great and distinctive feature between the nervous system of Vertebrata and that of the lower forms consists in the absence of a defined or chief nervous center, through which consciousness may intervene to render the being intelligent,

and aware of the nature of the acts it performs.

Nervous Diseases, diseases due either to actual changes in the structure of nerve-fibers or nerve-centers, or to some irregularity of nerve function without actual structural change. Thus nervous diseases may be due to inflammation or degeneration of nerve substance; to the pressure on some part of the nervous system of tumors, effused blood, or other fluid; to the death of some part by the cutting off of its blood supply, etc.; or may be the result of lowered nervous action as a part of general bad health.

Nesselrode, Carl Robert, Count von, a Russian statesman; born in Lisbon, Portugal, Dec. 14, 1780. He took part in the Congress of Vienna, and in the dismemberment of Poland. At that Congress Nesselrode shared with Metternich and Talleyrand the chief direction of affairs. He was the chief contriver of the "Holy Alliance," which made Russia virtually supreme in Europe, and Nesselrode supreme in Russia. The count took a leading part at the congresses of Aix-la-Chapelle in 1818, and of Verona in 1822. After the accession of Alexander II., Count Nesselrode retired from his office of chancellor of the Russian empire, and died in St. Petersburg, Russia, March 23, 1862.

Nestor, in Greek legend, son of Neleus and Chloris. His father and 11 brothers were killed by Hercules; but the conqueror spared Nestor's life and placed him on the throne of Pylas. As king of Pylas and Messenia, he led his subjects to the Trojan war, where he distinguished himself among the rest of the Grecian chiefs by eloquence, wisdom, and justice. After the Trojan war he retired to Greece, where he enjoyed the peace and respect due to his old age and his surpassing prudence of mind. The ancients declare that he lived three generations of man.

Nestorianism, the doctrine taught by Nestorius, that there were two persons as well as two natures in Jesus Christ, and that the Virgin Mary was in no sense Theotokos, or Mother of God, as she was the mother of the man Jesus and not of the Word. This doctrine was condemned by the Council of Ephesus, convened by Pope Celestine I., in A. D. 431. Nestorius was deposed, and the use of the Nicene Creed made obligatory. Nestorianism made rapid strides in the East, and Cardinal Newman says that in the 11th century "its numbers, with those of the Monophysites are said to have surpassed those of the Greek and Latin Churches together." Since 1553 a portion of the Nestorians have been in communion with Rome, and are known as Chaldeans. Blunt was of the opinion that Nestorius did not hold the doctrine of a dual nature, but that his chief offense in the eyes of the orthodox was opposition to the growing devotion to the Virgin Mary.

Nestorius, Bishop of Constantinople (428–431). He incurred the charge of heresy. Cyril of Alexandria, at the Council of Ephesus in 431, procured the condemnation of the doctrine taught by Nestorius and the deposition of the patriarch. He was banished to the deserts of Egypt, where he suffered much and died in 440. Numerous extracts from several of his works, entire epistles, and some sermons are extant. His followers, called Nestorians, were persecuted by several Greek emperors in succession.

Netherlands, The, or **Holland** (Dutch Nederland, or Koninkrijk der Nederlanden), a kingdom of Europe on the North Sea, N. of Belgium and W. of part of Northern Germany; area 12,648 square miles; pop. (1901) 5,179,100. The country is divided into 11 provinces: North Brabant, Gelderland, South Holland, North Holland, Zeeland, Utrecht, Friesland, Overijssel, Groningen, Dorenthe, and Limburg. In addition to her European territories Holland possesses extensive colonies and dependencies in the Asiatic archipelago and America; including Java, Sumatra, great part of Borneo, Celebes, part of New Guinea, Surinam or Dutch Guiana, the West Indian islands of Curacao, Saba, St. Eustatius, etc.; estimated area, about 783,000 square miles; pop. approximately 35,000,000.

The Netherlands (or Low Countries, as the name implies) from the most characteristic portion of the great plain of N. and W. Europe. It is the lowest part of this immense level, some portions of it being 16 to

20 feet below the surface of the sea, and nearly all parts too low for natural drainage. The coast line is very irregular, being marked by the great inlet of the Zuider Zee, as well as by various others, and fringed by numerous islands. In great part the coast is so low that were it not for massive sea-dykes large areas would be inundated and lost to the inhabitants. In the interior also dykes are a common feature, being built to protect portions of land from the lakes or rivers, or to enable swampy pieces of land to be reclaimed by draining, the water being commonly pumped up by windmills. These inclosed lands are called "polders," and by the formation of the polders the available area of the country is being constantly increased, lakes and marshes being converted into fertile fields, and considerable areas being even rescued from the sea. One of these reclamations was the Lake of Haarlem, the drainage of which, yielding more than 40,000 acres of good land now inhabited by about 12,000 persons, begun in 1839, was finished in 1852. Almost the only heights are the sand hills, about 100 to 180 feet high, along the coast and a similar chain of low hills, S. E. of the Zuider Zee. In the same line with the sand-hills, extending past the mouth of the Zuider Zee, runs a chain of islands, namely, Texel, Vlieland, Schelling, Ameland, etc., which seem to indicate the original line of the coast before the ocean broke in on the low lands. The coast of Friesland, opposite to these islands, depends for its security altogether on artificial embankments. The highest elevation, 656 feet, is in the extreme S. E. The general aspect of the country is flat, tame, and uninteresting, and about a fifth of the whole surface consists of marsh, sand, heath, or other unproductive land.

Wheat, of excellent quality, is grown only in favored portions of the south provinces. Rye, oats, and buckwheat, with horse-beans, beet, madder, and chicory, are more common crops; and tobacco is cultivated in the provinces of Gelderland, South Holland, and Utrecht; flax in North Brabant, South and North Holland, Friesland, and Zeeland; and hemp, sugar-beet, oilseeds, and hops in various parts of the kingdom. Culinary vegetables are cultivated on a large scale, not merely for the sake of supplying the internal demand, but also for the exportation of the seeds, which form an important article of Dutch commerce. But it is in stock (cattle, horses, sheep, swine, goats), and dairy produce in particular, that the rural industry of the Netherlands shows its strength.

The commerce of the country was at one time the most important in the world, and is even yet of great importance and activity. The foreign trade centers chiefly in Amsterdam and Rotterdam. The industrial occupations are varied. Shipbuilding and subsidiary trades are among the chief. Of textile manufactures that of linen is the most important; but silks and velvets, as well as woolens and cottons, are produced in considerable quantity. Pigments, brandy, gin, paper, glass, earthenware, etc., are among the more important products. Large numbers of the sea-board population are employed in the deep-sea fisheries. Railways have a length of 1,722 miles, and navigable water (canals excluded), about 3,000 miles. The chief money unit is the florin or guilder = about 40 cents.

The stock to which the people belong is the Teutonic, the great majority of the inhabitants being descendants of the old Batavians. They comprise over 70 per cent. of the population, and are chiefly settled in the provinces of North and South Holland, Zeeland, Utrecht, and Gelderland. The Flemings of North Brabant and Limburg, and the Frisians, inhabiting Friesland, Groningen, Drenthe, and Overijssel, form the other groups. The majority of the people belong to the Dutch Reformed Church (a Presbyterian body) ; the remainder being Roman Catholics, Old Catholics, Jews, etc. All religious bodies are on a perfect equality. The government is a constitutional monarchy, the executive being vested in the queen, and the legislative authority in the states-general, sitting in two chambers. The upper chamber, 50 in number, is elected by the provincial councils or assemblies of the 11 provinces; the lower chamber, 100 in membership, is elected directly, the electors

being all males of 25 years of age taxed at a certain figure. The members of the lower house are paid. Elementary schools are everywhere established, and are partly supported by the State, but education is not compulsory. Higher class schools are in all the chief towns; while there are State universities, namely, at Leyden, Utrecht, and Groningen, and the municipal university at Amsterdam. The commercial capital of the country is Amsterdam, but the seat of government and residence of the sovereign is The Hague.

Nethersole, Olga, an Anglo-American actress; born in Kensington, England, Jan. 18, 1870. She made her first professional appearance at the Theater Royal, Brighton, in "Harvest," in March, 1887. About a year later she appeared in London at the Royal Adelphi Theater, which was succeeded by an engagement at the Garrick. She subsequently went to Australia and returned to London at the head of her own company in "The Transgressor." She visited the United States four times, first in 1894, under the management of A. M. Palmer, appearing at Wallack's Theater in "Camille," and arousing great enthusiasm. In her subsequent visits she appeared in the roles of Denise, Camille, Juliet, Carmen, etc.

Nettle, a genus of plants consisting chiefly of neglected weeds, having opposite or alternate leaves, and inconspicuous flowers, which are disposed in axillary racemes. The species are mostly herbaceous, and are usually covered with extremely fine, sharp, tubular hairs, placed on minute vesicles filled with an acrid and caustic fluid, which by pressure is injected into the wounds caused by the sharp-pointed hairs. Hence arises the well-known stinging sensation when these plants are incautiously handled. The nettle is common in the United States.

Nettlerash, the term applied to a common form of eruption on the skin. The eruption consists of wheals, or little solid eminences of irregular outline, and either white or red, or most commonly both red and white, there being a white center with a red margin. The rash is accompanied with great heat, itching, and irritation, but is always aggravated by scratching; the appearance on the skin and the sensation being very much like the appearance and feeling produced by the stinging of nettles; and hence the origin of its name.

Nettle Tree, sometimes called the sugar-berry, often attains a height of 80 feet. It is a native of North America from Canada to Carolina. A variety is often called hackberry. The European nettle-tree grows from 30 to 40 feet.

Neuendorff, Adolph Heinrich Anton Magnus, an American musician; born in Hamburg, Germany, June 13, 1843, was educated in the public schools of New York city, and while attending school also studied music. When only 15 he appeared in public as a pianist, and a year later was engaged to lead a chorus, and also play in an orchestra. In 1864 he became musical director at the German Theater in Milwaukee, Wis. The following year he succeeded Carl Anshutz as conductor of German grand opera in New York; in 1872 founded the Germania Theater; and succeeded Theodore Thomas as leader of the New York Philharmonic Society in 1878. Afterward he conducted several orchestras, and produced some original operas, among them "The Rat Charmer of Hamelin," etc. He died in New York city, Dec. 4, 1897.

Neumann, John Nepomucene, a German-American Roman Catholic prelate; born in Prachatitz, Bohemia, March 28, 1811. In 1823 he entered the Budweis gymnasium, and in 1831, the theological seminary, where he took minor orders. In 1835 he came to the United States; was ordained priest in 1836; became a Redemptionist, and was made superior of that order in Pittsburg, Pa. In 1852 he became Bishop of Pennsylvania. In 1854 he visited Europe, where he received special marks of honor. He died in Philadelphia, Pa., June 5, 1860.

Neuralgia, severe pain produced by irritation of a nerve, or by sympathetic action with inflammation of surrounding parts; a disease chiefly of debility, overwork, and general depression. When it occurs in the head it is called tic-doloreux, in the breast angina pectoris, and in the chest-wall, intercostal neuralgia. Bromide of potassium, strychnine, arsenic, quinine,

and tonic treatment generally are indicated in this disease.

Neuropurpuric Fever, a malignant epidemic fever attended with lesions of the brain and spinal cord, usually with purpuric or other eruptions; mortality from 25 to 80 per cent. of those attacked. Tanner prefers to call it cerebro-spinal fever, and gives as synonyms malignant purpuric fever, malignant purple fever, epidemic cerebro-spinal meningitis, cerebro-spinal typhus, and spotted fever.

Neurosis, a name common to diseases of the nervous system unaccompanied by any discoverable alteration in structure, that is to say functional diseases of the nervous system. Hysteria, for example, is a neurosis; catalepsy, some forms of mental disease, such as melancholia, various forms of neuralgia and spasm, are called neuroses.

Neurotic, a term introduced into medicine to indicate some relationship to the nervous system. Thus a neurotic disease is a nervous disease. Medicines that affect the nervous system, as opium, strychnine, etc., are called neurotics.

Neuter, in botany, a flower having neither stamens nor pistils. In grammar, a noun of neuter gender. In entomology, a sterile female, a worker. Neuters are found in social insect communities, such as those of bees and ants. They have no sex, and, consequently, no reproductive power.

Neutral Ground, the name given to the space between the Spanish lines and the fort of Gibraltar.

Neutrality, in chemistry, possessing the neutral condition.

In international law, that condition or attitude of a country or state in which it does not take part, directly or indirectly, in a war between other countries. A neutral state is allowed to supply to either of the belligerents any supplies or stores which are not contraband of war. It may also enter into treaties or engagements with either side, provided such treaties or engagements are unconnected with the subject of the war. Armed neutrality, the state of a country or nation which holds itself armed in readiness to resist any aggression of either of the belligerents to whom it is neutral.

Neuville, Jean Guillaume, Baron Hyde de, a French statesman; born in the castle of Neuville, near Charite-sur-Loire, France, Jan. 24, 1776. He was educated at the College Cardinal Lemoine in Paris; affiliated with the exiled Bourbon princes; and became one of their most trusted agents. In 1799, under the name of Paul Xavier, he had an interview with Bonaparte with a view to the restoration of Louis XVIII. Later his estates were confiscated, but in 1806 Napoleon agreed to refund them if he would live in the United States. He settled near New Brunswick, N. J., where his house was open to all French exiles. In 1814 he returned to France, and was received with favor by Louis XVIII.; in 1815 he was elected to the Chamber of Deputies, and in 1816 was appointed minister and consul general to the United States. Louis made him a baron and gave him the grand cross of the Legion of Honor. In 1823 as minister to Portugal he rescued the old King John VI., who had been imprisoned by his son. He was made Count of Pembosta; was secretary of the navy; and again elected to the Chamber of Deputies. He published "Notes on the Commerce of France with the United States." He died in Paris, France, May 28, 1847.

Nevada, a State in the Western Division of the North American Union; bounded by Oregon, Idaho, Utah, Arizona, and California; admitted to the Union, Oct. 31, 1864; number of counties, 14; capital, Carson City; area, 109,740 square miles; pop. (1890) 45,761; (1900) 42,335.

It is a table-land 4,000 to 8,000 feet above sea-level. The State is crossed by a series of parallel mountain ranges with a general N. and S. direction. The principal chains are the Virginia Mountains, the Truckee Mountains, Antelope, East Humboldt, Toyabe and Santa Rosa Mountains. Between these mountains are deep valleys; the Colorado valley having numerous abrupt ranges, and peaks rising above its plateaus. The most important ranges of the Colorado region are the Muddy, Vegas, Spring Mountain, and Kingston Mountains. There are numerous lakes, the rivers having no outlet over the mountains. The volcanic

nature of the State is shown by the ancient and modern eruptive rocks, and by the lava beds of the N. W. The mountain ranges are in places composed entirely of limestone, in others of granite, syenite, porphyry, slate, or quartzite.

Nevada is rich in minerals, though, excepting silver and gold they have been worked but little. The Comstock silver lode, discovered in 1859, was for years the most valuable in the world. Other minerals mined included tungsten, antimony, platinum, zinc, cinnabar, tin, manganese, plumbago, nickel, cobalt, and iron. Beds of sulphur, gypsum, rock salt, borax, saltpeter, and carbonate of soda are extensive. The building stones include limestone, granite, slate, sandstone, agate, and marble.

With the exceptions of the river valleys there is scarcely any arable land in the State. The valleys and basins, however, are well watered and adapted to agricultural pursuits, and under proper irrigation considerable mountain land has been made productive. The principal crops are hay, wheat, oats, and barley. The forest trees are chiefly pines, firs, and spruces, of great size. The foothills are covered with mountain mahogany, dwarf cedar, willow, beech, cottonwood, and wild cherry. Apple, peach, pear, and plum trees flourish and bear excellent fruit. Stock raising and dairy farming are leading industries.

At the close of the school year 1899–1900 there were reported 9,260 children of school census age; enrollment in public schools, 6,676; and average daily attendance, 4,698. There were 324 teachers, 231 buildings used for public school purposes, and public school property valued at $284,563. For higher education there were public high schools, at Austin, Carson City, Elko, Eureka, Gold Hill, Reno, and Virginia City, and the State University of Nevada at Reno.

The strongest denominations in the State are the Roman Catholic; Protestant Episcopal; Mormons; Methodist Episcopal; and Presbyterian.

The governor is elected for a term of four years and receives a salary of $4,000 per annum. Legislative sessions are held biennially and are limited in length to 50 days each. The Legislature had 15 members in the Senate and 33 members in the House, each of whom receives $10 per day and mileage. There is one Representative in Congress.

Nevada is part of the territory acquired by the United States from Mexico, by the treaty of Guadalupe Hidalgo. The first immigrants were the Mormons, who located in the Carson and Washoe valleys in 1848. The discovery of gold in California in the following year brought more settlers, and the discovery of silver still added to Nevada's growth. It was organized as a Territory March 2, 1861, and admitted to the Union in 1864. In 1866 its area was increased to the present size by parts of Arizona and Utah.

Nevada, Emma, stage name of Emma Wixom, an American opera singer; born in Austin, Nev., in 1862. She studied in Paris and made her first appearance as an opera singer in London in 1880. She sang with success in Paris, Italy, and the United States. In 1885 she was married to Dr. Raymond Palmer.

Nevada State University, a co-educational, non-sectarian institution at Reno, Nev.

Nevin, William Channing, an American journalist; born in New Athens, O., Jan. 1, 1844. He was admitted to the bar in 1871; and wrote for Philadelphia journals. His works include: "History of All Religions," and "A Layman's Theology."

Nevis, an Island of the West Indies, belonging to Great Britain. It forms one of the Leeward Islands, and is 2 miles S. E. of St. Christopher, with which it has been since 1882 administratively connected. It is circular in form, rises in the center to a wooded ancient crater (3,200 feet), and has an area of 50 square miles. The lower slopes are cultivated, the sugar cane being the principal crop, though limes and oranges are grown to a small extent. The capital is the port of Charlestown. As long as the slave trade lasted it was one of the principal marts for slaves in the West Indies. The island has suffered much at various times from hurricanes and earthquakes. Pop. (1891) 13,087.

New Amsterdam, the name conferred on the present city of New York by its original Dutch settlers.

Newark, a city, port of entry, and county-seat of Essex co., N. J.; on the Passaic river, and the Pennsylvania, the Central of New Jersey, the Lackawanna, and the Erie railroads; 9 miles W. of New York city; area, 19 square miles; pop. (1890) 181,830; (1900) 246,070.

Newark is noted for the variety of its manufactures. In 1900 there were reported 3,339 manufacturing establishments, employing $103,191,403 capital and 54,059 persons; paying $29,534,311 for wages and $67,105,944 for materials; and yielding products of a combined value of $126,954,049. The principal articles were leather ($10,857,192); malt liquors ($8,236,468); jewelry ($7,364,247); foundry and machine shop products ($5,536,893); fur hats ($3,453,619); varnish, ($2,401,849).

In 1666 Newark was settled by families from Milford and New Haven, Conn.; in the following year these were joined by other settlers, led by Rev. Abraham Pierson. The latter came from Guilford and Branford, Conn. The settlement which was named after Pierson's English home, was rigorously religious, and only members of the Congregational Church held the privilege of franchise. In 1773 Newark received its first charter in 1777 it was taken, plundered, and nearly destroyed by the British. It was chartered as a city in 1836. Lafayette received a grand ovation here on his visit to the United States after the Revolutionary War. Besides its manufactures the city is widely known for its extensive fire and life insurance interests.

Newark, The, a steel, twin-screw protected cruiser of the United States navy.

Newberry, John Strong, an American geologist; born in Windsor, Conn., Dec. 22, 1822; was graduated at Western Reserve College in 1846, and at the Cleveland Medical College in 1848. In 1851–1855 he practised medicine in Cleveland. He was assistant surgeon and geologist to the government expedition that explored the country between San Francisco and the Columbia river; also accompanied Lieutenant Ives in his exploration of the Colorado river; and the expedition under Captain Macomb in its exploration from the Santa Fe to the junction of the Grand and Green rivers. At the beginning of the Civil War he became attached to the United States Sanitary Commission, and later became secretary of its Western Department. He was appointed Professor of Geology at the Columbia College School of Mines, in 1866; which post he retained till his death. He died in New Haven, Conn., Dec. 7, 1892.

Newberry College, a coeducational institution in Newberry, S. C.; founded in 1858 under the auspices of the Lutheran Church.

Newborn, the name of a sect of Antinomians, which had a short existence in the United States in the early part of the 18th century. Its founder was a German immigrant, named Mathias Bowman (who died 1727). They held the doctrine of the deification of humanity, with its consequence of denying that any act could be sinful in persons so deified.

New Britain, New Pommeru, or **New Pomerania,** the largest of a group of islands in the Pacific Ocean; occupied by Germany; belongs to the Bismarck Archipelago; is 300 miles in length and has an area of 12,000 square miles. The inhabitants, of whom the number is unknown, are good agriculturists, but still practise cannibalism to some extent. The Germans, since their occupation of the island, have started cotton plantations.

New Brunswick, a province of the Dominion of Canada, on the E. coast of North America; bounded W. by the State of Maine; N. W. by the province of Quebec; N. by Chaleur Bay; E. by the Gulf of St. Lawrence and Northumberland Strait, the latter separating it from Prince Edward Island; and S. by the Bay of Fundy and part of Nova Scotia; area, 28,200 square miles; pop. (1901) 351,120.

The coast line is interrupted only at the point of junction with Nova Scotia, where an isthmus of not more than 14 miles in breadth connects the two territories, and separates Northumberland Strait from the Bay of Fundy, which it is proposed to unite by means of a canal. The general surface of the country is level, but hilly in the N. W. The principal rivers are the St. John, 450 miles in length, and

navigable for vessels of 100 tons to Fredericton, 90 miles from its entrance into the Bay of Fundy; and the Miramichi, 225 miles in length, which falls into the bay of the same name, and is navigable for large vessels 25 miles from the gulf. There are a number of lakes, the largest, Grand Lake, being 25 miles long by about 5 miles broad. Coal is plentiful, and iron ore abundant; the former is said to extend over 10,000 square miles or above one-third of the whole area. The climate, like that of other portions of Canada, is subject to extremes of heat and cold, but is, on the whole, healthy. After agriculture, lumbering and fishing are the main occupations of the inhabitants, though many are engaged in mining and manufacturing. A very large portion of the soil is adapted for agriculture, but only a small part is developed. Cereals are largely grown and the fruit industry is important. Great attention is given to the improvement of live stock.

New Caledonia, an island in the Pacific Ocean; about 800 miles E. of Australia. It is of volcanic origin and is surrounded by sand bars and coral reefs. It was discovered by Captain Cook in 1774, and appropriated by the French as a convict settlement in 1854. The capital is Noumea, near the S. end of the island, with a fine harbor. The island is mountainous, well watered and wooded, and yields coffee, maize, tobacco, sugar-cane, grapes, manioc, and pineapples. Stock-raising is an important industry. The climate is hot but healthy. There are nickel mines, and also mines of copper and cobalt, considerable quantities of which are raised and exported, as also chrome, copra, coffee, etc. With the adjacent Loyalty Islands the area is estimated at 7,700 square miles. The native population, of Melanasian race, and cannibals, has diminished greatly since the French occupation. The attempt of the French to work the settlement both as a free and as a penal colony has not succeeded, and the frequent escape of convicts to Australia has been a source of trouble and international dispute. Pop. 52,756, of whom about 19,050 are whites.

Newcastle-upon-Tyne, a city in Northumberland co., England, on the Tyne, 54 miles E. of Carlisle. It is built on an acclivity extending along the river on the site of an old Roman camp. The principal buildings are St. Nicholas' Church, the Mansion House, the Trinity House, Exchange, and Moot Hall. In Grey street is erected a column 136 feet high, and surmounted by a colossal statue of Earl Grey. The chief manufactures are glass, pottery, chemicals, iron, tin, and other metal goods. Ship building is carried on largely. Its importance is mainly owing to the coal trade from the mines along both banks of the Tyne. In 1891 there were 123,404 persons variously employed in the coal trade of the city. The proverbial expression, "Carrying coals to Newcastle," bears allusion to this city. The port of Newcastle is fourth in rank in Great Britain. Pop. (1901) 214,881.

Newcomb, Simon, an American astronomer; born in Wallace, N. S., March 12, 1835; was educated by his father; came to the United States in 1853; taught in Maryland for two years; studied at the Lawrence Scientific School in Cambridge, graduating in 1858. In 1861 he was appointed Professor of Mathematics in the United States navy and assigned to the United States Naval Observatory in Washington. While there he negotiated the contract for the 26-inch telescope authorized by Congress, and supervised its construction. He was connected with the "American Ephemeris and Nautical Almanac"; associated with the equipment of the Lick observatory in California; was secretary of the commission appointed by the United States government to observe the transit of Venus, Dec. 9, 1874; and in 1884 became Professor of Mathematics and Astronomy at Johns Hopkins University.

Newcomen, Thomas, an English inventor; born in Dartmouth, England, in 1663. In 1705, with Cawley, a Dartmouth glazier, and Savary, the manager of a Cornish mine, he obtained a patent for what is now known as the atmospheric steam engine. Some six years later his invention was brought into use for pumping water out of mines. The mechanism employed by Newcomen was so different from that previously used that he may be considered the inventor of the first real steam engine. Died in London, in 1729.

Newell, Robert Henry ("Orpheus C. Kerr"), an American humorist; born in New York city in 1836. He died in Brooklyn, N. Y., in August, 1901.

Newell, William Augustus, an American physician; born in Franklin, O., Sept. 5, 1817; was graduated at the Medical Department of the University of Pennsylvania in 1839; began practice in New Jersey; was a member of Congress in 1847–1851 and 1865–1867, and introduced into Congress the bill under which the United States Life Saving Service was founded, in 1848. Through his efforts the United States Agricultural Bureau was established and the Mount Vernon estate purchased. He was governor of New Jersey in 1857–1859; superintendent of the United States Life Saving Service in 1860–1864; governor of Washington Territory in 1880–1884; and surgeon in the Washington State Soldiers' and Sailors' Home in 1894–1898. He died in Allentown, N. J., Aug. 8, 1901.

New England, a collective name given to the six Eastern States of the United States of America, Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut, embracing an area of 66,400 square miles.

Newfoundland, an island and British colony of North America; in the Atlantic Ocean at the mouth of the Gulf of St. Lawrence. The island is 370 miles in length, 290 in breadth, and about 1,000 in circumference; area, 42,200 square miles; pop. 197,934; capital, St. Johns.

About a third of the area of the island is occupied by lakes and ponds. The coast provides a large number of excellent and sheltered harbors. The plains abound with herds of the caribou deer; these with bears, wolves, foxes, and beaver, form the principal fauna of the island, which is a favorite resort for sportsmen. In winter the cold is severe. Much of the soil is unproductive; grain and root crops are the most important agricultural products; large areas are adapted to stock raising. The chief resources of the inhabitants have been in the past the cod, seal, and salmon fisheries, these industries being the most extensive of the kind in the world. The fisheries are of two classes, those of the shore and those at the "banks." The latter term comprises a tract from 500 to 600 miles in length and about 200 in breadth. The mines are rapidly overtaking the fisheries in importance. Lead, silver, gold, copper, coal, and iron are found, Newfoundland producing a large proportion of the world's copper.

Newfoundland was discovered by John Cabot in 1497. In 1583, Sir Humphrey Gilbert took possession in the name of England and in 1621 Calvert made a settlement in the peninsula of Avalon. Representation was granted in 1832. Newfoundland forms, with the department of Labrador, a crown colony. It is administered by a governor, assisted by an executive council, and a House of Assembly of 36 members.

Soon after the discovery of Newfoundland, French fishermen frequented the "banks" in larger numbers than the English, and Great Britain did not take formal possession till 1583. The first permanent settlement was made in 1623. Before the treaty of Utrecht (1713), which ceded the island to Great Britain, the French and English had frequent conflicts over the right of possession. The French claim the exclusive right to fish from Cape John on the E. coast, around the N. coast, to Cape Ray on the W. Great Britain has never admitted this claim. The position maintained by the French has prevented the development of the mineral resources on the N. coast.

Newfoundland Dog, a well-known variety; according to Youatt it is simply a large spaniel. It is supposed to have come originally from Newfoundland, where it is employed by the natives as a beast of burden. It is the largest, the most courageous, and by far the most intelligent of the waterdogs, and has considerable webs between the toes.

New France, Canada, thus named, formerly, having been first colonized by Frenchmen.

Newgate, a formerly celebrated London prison, standing at the W. extremity of Newgate street, opposite the Old Bailey. The exterior presented high dark stone walls, without windows. It was long the chief criminal

prison of city and county. The earliest prison here was in the portal of the "new gate" of the city as early as 1218; hence the name. The present edifice was erected in 1780. After the passing of the Prisons Bill in 1877, Newgate was gradually abandoned.

The demolition of Newgate prison has been in progress during 1903, and is going on while this encyclopædia goes to press. The work has led to the discovery, in October, 1903, beneath the prison yard of a section of the wall which the Romans built around London.

NEWFOUNDLAND DOG.

Fifteen feet high and eight broad, the wall was formed chiefly of Kentish rubble and Sussex gritstone and was in a good state of preservation, but it was stated at a meeting of the Court of Common Council that it had to be removed to make way for the site of the new sessions house, to be erected.

Deep down in the excavation there has also been disclosed a curious brick archway which, it is believed, formed a portion of a subterranean passage connecting the gate, built in the year 1,100, with the jail, the plan no doubt being to bring prisoners directly to the prison without exposing them to the populace.

New Guinea, or **Papua,** a large island in Australasia, next to Australia the largest on the globe; area, 305,900 square miles; length about 1,500 miles, breadth from 200 to 400.

The coasts are for the most part lofty, with mountains coming close to the sea, but in the neighborhood of Torres Strait the shore presents the appearance of a marshy flat covered with dense forests. In the interior there are still loftier mountains, covered with perpetual snow, and volcanoes. In the S. E. end Mount Owen Stanley rises to the height of 13,205 feet; farther W. and near the N. coast Mount Schopenhauer reaches 20,000 feet. The island is rich in tropical products, possesses a copious and peculiar flora and fauna (birds of paradise being especially numerous and gorgeous), and is suitable for tropical agriculture. The coast is miasmatic in many places; the mountainous interior is reported healthier. On the W. coast there are numerous Malay settlements, but the bulk of the inhabitants are Papuans.

The discovery of New Guinea was made by the Portuguese early in the 16th century, but little was known of it till recently. The naturalists were the first to make incursions into its interior, and among these A. R. Wallace, who visited it in 1858, was the pioneer. The missionaries came next Germany and the Australian colonies also began to take an interest in New Guinea, and the latter urged the home government to annex the E. part of the island, the W. portion having long been recognized as Dutch. At length the delimitation and division of the island between Great Britain, Germany and Holland was settled in 1885. That part of the island lying W. of the 141st meridian was assigned to Holland, and comprises 151,789 square miles; the remainder, the N. part of the island is assigned to Germany, and the S. to Great Britain. The German territory, called Kaiser Wilhelm's Land, contains about 70,000

square miles, the English territory, 90,540 square miles. The population of the Dutch portion is estimated at 200,000; of the German, 110,000; of the British, 350,000.

Newhall, Charles Stedman, an American author; born in Boston, Mass., Oct. 4, 1842. He became a clergyman, filled a college professorship and became superintendent of Forest Reserves of Northern and Central California.

New Hampshire, a State in the North Atlantic Division of the North American Union; one of the original 13 States; capital, Concord; number of counties, 10; area, 9,005 square miles; pop. (1900) 411,588.

The surface of the State is rugged. The Appalachian range of mountains enters the State from Maine, and as the White Mountains crosses the State diagonally with a maximum elevation in Mount Washington of 6,285 feet. Along the W. part of the State these mountains dwindle down to a range of hills. The White Mountain district is divided by the Saco and Lower Ammonoosuc river valleys, and the "Notch" into the White and Franconia ranges. This region presents magnificent scenery and is known as the "Switzerland of America." Besides Mount Washington, there are 28 other peaks, over 4,000 feet high. The river system is divided into five drainage basins. The Connecticut river, forming the entire Vermont boundary line, with its tributaries drains the entire W. part of the State. The Androscoggin river, rising in Lake Umbagog, drains the N. E., and the E. mountain district is drained by the Saco. The Piscataqua, with its tributaries forms a S. E. basin. The mouth of this river forms the harbor of Portsmouth, the only harbor on the New Hampshire coast. The Merrimac river, formed by the junction of the Pemigewasset and Winnipiseogee flows through a region of manufacturing cities to which it supplies unlimited water power. There are numerous beautiful lakes and ponds in the State, the largest being Winnipiseogee.

Magnetic and specular iron ore are found in places, and some copper is mined. Gold and silver have been found in quartz and gold is washed from brook sands. Mica is the principal mineral product. New Hampshire ranks first in the United States in this product with nearly one-third the entire output. Granite was also quarried. Other mineral products include plumbago, beryl, brick clays, slate, limestone, and colored porphyries.

The soil is light and sandy and with the exception of the Connecticut valley and portions of Coos county is not adaptable to farming. The soil is as a rule, worn out from constant tillage and makes much better pasturage than farmland. The agricultural interests have of late been turned to stock raising and dairy farming. Large quantities of maple sugar and syrup are produced. The principal farm products are hay, rye, wheat, oats, potatoes, and buckwheat. The forest trees include several varieties of pine, hemlock, spruce, and maple, oak, beech, birch, elm, hickory, butternut, chestnut, poplar, cherry, ash, and moosewood.

In common with other New England States, the industrial interests of New Hampshire are devoted to manufacturing. The abundant water power produced by the Merrimac river makes Central and Southern New Hampshire one of the most important manufacturing sections of the country. In 1900 there were reported 4,671 manufacturing establishments, employing $101,000,000 in capital, and 70,000 persons, and having finished products valued at $118,000,000. The principal products were cotton and woolen goods, boots and shoes, hosiery and knit goods, leather, machine shop and foundry products, paper, flour, clothing, furniture and wood pulp. Manchester is noted for having the largest cotton mill in New England.

By recent statistics the children of school age numbered 90,910, and the enrollment in public schools, 65,193, and the average daily attendance, 47,733. There were 2,970 school teachers, 1,902 buildings used for public school purposes, and public school property valued at $3,658,143. For higher education there were 52 public high schools; 31 private secondary schools; the State Normal School at Plymouth; Dartmouth College at Hanover; St. Anselm's College at Manchester, and the New Hampshire

College of Agriculture and Mechanic Arts, at Durham.

The strongest denominations in the State are the Roman Catholic, Congregational, Methodist Episcopal, Regular Baptist, Free Will Baptist, Unitarian, Protestant Episcopal, Advent Christian, Christian, and Universalist.

The governor is elected for a term of two years and receives a salary of $2,000 per annum. Legislative sessions are held biennially, beginning on the first Wednesday of January, and are unlimited as to length. The Legislature has 24 members in the Senate and 997 in the House, each of whom receives $200 per annum and mileage. There are 2 representatives in Congress.

New Hampshire was settled in 1629, by an English colonist named Mason, under a grant made in 1623. In 1641 New Hampshire became a portion of the Colony of Massachusetts; who maintained her authority there till 1679, when the case being brought before the highest court of appeal in England on colonial matters, it was decided that the claim of Massachusetts was illegal, and New Hampshire was constituted a separate province. In 1686, the charter of Massachusetts having been annulled, New Hampshire, Maine, Massachusetts, and Narragansett were united in one royal province, under President Dudley, and afterward under Governor Andros. In 1689, upon the news of the English Revolution, the government of Andros was overthrown, and Massachusetts resumed her old charter. In 1692, the province of New Hampshire was re-established by the English government. In 1776, the province issued a public declaration of independence, and organized a temporary government. After taking a distinguished part in the War of the Revolution New Hampshire, in convention (1788), gave in her adhesion to the United States Constitution by a majority of 11 votes in an assembly numbering 103; and in 1807, the seat of government was permanently established at Concord. On July 1, 1869, the State ratified the 15th amendment to the National Constitution.

New Haven, a city and county-seat of New Haven co., Conn.; at the head of New Haven Bay, 4 miles from Long Island Sound, 36 miles E. of Hartford; the largest and most important city in the State.

New Haven has an area of 12½ square miles, 200 miles of streets, of which 65 miles are paved; a system of waterworks, with 165 miles of mains; and a sewer system covering 95 miles. The streets are lighted by gas and electricity. There is a public school enrollment of over 16,000 pupils and the annual expenditure for public education is about $450,000. The annual cost of maintaining the city government averages $1,800,000. New Haven is the seat of Yale University, and of the Hopkins Grammar School (the oldest preparatory institution in the United States).

New Haven has extensive and flourishing manufacturing interests.

New Haven was settled in 1638 by a company from London, under the Rev. John Davenport and Theophilus Easton. It formed a separate colony till, in 1662, it was united to the Connecticut colony. On July 5, 1779, it was captured and plundered by the British under General Tryon. After the Revolutionary War commerce increased rapidly, but was greatly crippled by the Embargo Act and the War of 1812. New Haven received its city charter in 1784, and for a long time prior to 1873 was one of the State capitals. Pop. (1900) 108,027.

New Hebrides, a group of islands in the Pacific Ocean, W. of the Fiji islands, area, est. at 3,500 square miles. The largest ones are Mallicollo, and Espiritu Santo. One, Tanna, has an active volcano; and in consequence probably of volcanic action, Aurora, one of the most fertile, sank out of sight in 1871. They are wooded and hilly, ebony and sandalwood being obtained; and their chief products are yams, bananas, cocoanuts, and sweet potatoes. The chief animal is a small pig, not larger when full-grown than a rabbit. The native inhabitants, belonging to the Papuan race, are in general degraded and very ferocious. These islands are under the control of a mixed commission of French and British naval officers. Pop. 75,000.

New Ireland, now Neu-Mecklenburg, a long narrow island in the Pacific Ocean, N. E. of New Guinea;

area, 4,900 square miles; length 300 miles; width, 15 miles. The hills rise to 6,500 feet, and they and the whole of the interior are richly wooded.

New Jersey, a State in the North Atlantic Division of the North American Union; one of the original 13 States; number of counties, 21; capital, Trenton; area, 8,224 square miles; pop. (1900) 1,883,669.

New Jersey is divided into two distinct geographical divisions, the N. portion being undulating and hilly, and the S., a low sandy plain. The N. half of the State is crossed by three parallel mountain ranges running in a S. W. direction. A ridge of trap extends along the New Jersey shore of the Hudson river, known as the Palisades, and is world renowned for its scenic beauty. The Navesink Highlands, a group of sandy hills S. of Sandy Hook, and other detached hills to the S. W. rise to a height of nearly 400 feet. The entire S. portion of the State is an undulating plain gradually decreasing in altitude toward the Atlantic Ocean and Delaware river. The W. portion of the State is bounded and drained by the Delaware river. The Hudson flows along the E. boundary for 30 miles but receives no drainage. There are numerous small rivers, and creeks flowing into the Atlantic or into small bays. The Atlantic coast has numerous tidal bays, and the N. part of the State abounds in mountains, lakes and ponds.

For its size New Jersey is one of the richest mineral producing States in the Union. The Azoic and Palæozoic formations in the N. W. supply a large amount of magnetic iron, magnetite ore being practically the only kind now mined. Copper ores are worked in Somerset county, and the Schuyler mine at Arlington was the first copper mine worked in the United States. The zinc mines in Sussex county are among the richest in the world. Lead, plumbago, manganese, and nickel are also found. Sand for glassmaking, shell marls for fertilizers, lime for mortar and for fertilizing, porcelain, potter's and kaolin clays are among the more useful resources. In building and paving stones New Jersey stands well, the famous Jersey sandstone is largely used for building purposes, and the gneiss-granite, limestone, blue-stone, slate and trap are all of great commercial value.

The soil is a sandy loam admirably adapted to agriculture and in places where it has become worked out the abundant natural fertilizers soon reclaim it. The principal forest trees are the black, white, red, and pin oaks, chestnut, hickory, etc. The sand plains in the S. raise an abundance of cranberries, and the peach, apple, pear, and berry crops of New Jersey are of great value. In 1900 the principal farm crops were corn, wheat, hay, and potatoes.

The manufactures of New Jersey are very extensive and varied. Newark is one of the principal general manufacturing centers of the country. Its production of jewelry, leather, and hats, is greater than in any other city in the Union. Jersey City has extensive abattoirs, stockyards, grain elevators, steel works, and sugar refineries. Paterson is noted for its silk mills and locomotive works; Trenton for its potteries; Bridgeton, Millville, Salem and Glassboro for their glass works; Bayonne for its oil refineries and boiler works; and Elizabeth for the shipyards, sewing machines, and machine shops. In 1900 there were reported 15,481 manufacturing establishments, employing $502,824,082 capital and 257,865 persons; and having an annual production valued at $611,748,933.

In 1901 there were reported 124 National banks in operation, having $15,518,605 in capital, $8,646,017 in outstanding circulation, and $9,991,079 in United States bonds. There were also 19 State banks with $1,653,750 capital, and $1,340,894 surplus; 1 private bank, with $50,798 in deposits and $8,832 surplus; and 33 loan and trust companies, with $6,849,100 capital, and $6,703,529 surplus. The liberal corporation laws of New Jersey have led many corporations doing business elsewhere to organize in that State.

The public schools are excellent and well supported, and the institutions of higher education include the State Normal School, 5 local normal schools, Princeton University, at Princeton, Rutgers College, at New Brunswick, Stevens Institute of Technology, at Hoboken, Drew Theological Seminary, at Madison, and others.

The strongest denominations in the State are the Roman Catholic; the Methodist Episcopal; Presbyterian, North; Regular Baptist; Protestant Episcopal; Reformed; African Methodist; Lutheran, General Council; and Congregational.

The total length of railroads within the State on Jan. 1, 1901, was 2,257 miles, of which 5 miles were constructed during the previous year. The State debt is limited by law to $100,000. The assessed property valuation in 1900 was $891,237,286, besides the canal and railroad property amounting to $223,384,249.

The governor is elected for a term of three years and receives a salary of $10,000 per annum. Legislature meets annually on the second Tuesday in January and is not limited as to length of session. The legislature has 21 members in the Senate and 60 in the House, each of whom receives $500 per annum. There are 10 representatives in Congress under the new apportionment.

The first settlement in New Jersey was made by the Dutch at Bergen Point about 1615. Many Swedes and Danes afterward settled there but the Dutch maintained possession till 1664, when it became English property and was given to the Duke of York. He divided his grant of New Jersey between Lord Berkeley and Sir George Carteret, who named it New Jersey after the Island of Jersey where he had previously been governor. In 1682 East Jersey came under the jurisdiction of William Penn, and his partners in the Commonwealth of Pennsylvania. In 1738 on the petition of the colony to have a separate administration, Lewis Morris was made governor of New Jersey, and until the beginning of the Revolutionary War the growth of the colony was peaceful. The province adopted a State constitution in 1766, and throughout the Revolutionary War it was frequently the scene of stirring events. On its soil were fought the battles of Trenton, Princeton, Red Bank, and Monmouth. The first legislature was convened at Princeton in August, 1776, and the Federal Constitution was adopted by a unanimous vote, Dec. 18, 1787. The State capital was located at Trenton in 1790.

New Jerusalem, the name given by the Apostle John in the Book of Revelation to heaven.

New Jerusalem, Church of the, a religious sect founded in London, England, in 1783, on the teachings of Emmanuel Swedenborg. The Church of the New Jerusalem was founded in the United States in Baltimore, Md., in 1792.

Newman, John Henry; born in London, England, Feb. 21, 1801; was ordained in 1824. He was one of the most active in commencing and carrying on the so-called Oxford movement — the great object of which was to counteract as well the Romanizing as the dissenting tendencies of the time, by restoring and bringing into notice what Newman and his friends believed to be the catholic character of the English Church. In October, 1845, he was admitted into the Roman Catholic Church. Soon afterward he went to Rome, where he was admitted to orders, and in 1848, on his return to England, he established a branch of the Congregation of the Oratory of St. Philip Neri, of which he was himself appointed the superior. In 1852 he was appointed rector of the Catholic University established in Dublin; and in 1879 he was made a cardinal by Pope Leo XIII. Several of his hymns are well-known, particularly "Lead Kindly Light." He died, Aug. 11, 1890.

Newman, John Philip, an American clergyman; born in New York city, Sept. 1, 1826. He was ordained a minister in the Methodist Episcopal Church in 1860, and elected bishop in 1888. He was a preacher of note in Washington, and long chaplain to the Senate. In 1873 he was sent to Asia as inspector of consulates. Died 1899.

Newmarket, a market-town, lying on the border of Suffolk and Cambridgeshire, England, 14 miles E. N. E. of Cambridge and 69 N. N. E. of London. Twice almost destroyed by fire, in 1683 and 1700, it chiefly consists of one long street. The town owes its prosperity to its horseraces, as old at least as 1605; and nearly half the male population are jockeys, trainers, or stablemen. The race ground on Newmarket Heath, to the W., is one of the finest in the world. Of its 10

courses, the longest is 4¼ miles in circuit.

New Mexico, a Territory in the Western Division of the North American Union; organized as a Territory, Dec. 13, 1850; number of counties, 19; capital, Sante Fe; area, 122,580 square miles; pop. (1900) 195,310.

The Territory is a lofty plateau, crossed by mountain ranges, being the foundation of the Rocky and Sierra Madre Mountains. The Sierra Madre range passes through a series of low and often detached ranges to join the Sierra Madre range in Mexico. The Rocky Mountains, in the E. of the Territory, are the highest and often reach an elvation of 13,000 feet. The W. part is characterized by isolated peaks, lofty plateaus and deep canyons. The Llano Estacado is a broad nearly barren plateau in the S. E. The Rio Grande valley descends from an elevation of 6,000 feet near the Colorado border to 3,000 feet in the S. The Rio Grande traverses the State in a N. and S. direction and forms the principal drainage system. The Rio Pecos runs nearly parallel to it on the E. and finally joins it in Texas. Other important rivers are the Rio Chama, Rio Puerco, San Juan, Little Colorado, and Gila, the first two flowing into the Rio Grande, and the others, being tributaries to the Colorado.

The mineral productions are quite extensive. Gold, silver, copper, lead, anthracite and bituminous coal, lignite, salt, plumbago, fire clay, gypsum, cement and marble occur in the mountain districts and fine turquoises, emeralds, sapphires, garnets, opals, agates, petrified wood, and other precious stone abound.

The soil is very productive, but as yet but little worked, though irrigation by means of wells and canals is being rapidly installed. The cereals grow well and the ordinary farm, orchard, and garden fruits, are raised to a considerable extent. The hills and valleys are covered with a short grass, which provides excellent grazing facilities. Stock raising, especially of sheep, is carried on extensively. The most valuable farm crops are wheat, hay, corn, oats, and potatoes. New Mexico is but sparsely wooded.

At the end of the school year 1899–1900 there were reported 53,008 children of school census age; the enrollment in public schools, 41,098; and average daily attendance, 31,800. There were 981 public school teachers, 741 buildings used for public school purposes, and public school property valued at $759,320. For higher education there were 6 public high schools, 4 private secondary schools, the Normal School of New Mexico, at Silver City, the New Mexico Normal University, at Las Vegas, and the University of New Mexico, at Albuquerque.

The strongest denominations in the Territory are the Roman Catholic; Methodist Episcopal; Presbyterian, North; Methodist Episcopal, South; Mormon; Protestant Episcopal; and Regular Baptist, North.

The governor is appointed by the President of the United States for a term of four years, and receives a salary of $4,000 per annum. Legislative sessions are held biennially, and are limited in length to 60 days. The Territorial Legislature has 12 members in the Senate and 24 in the House, each of whom receives $4.00 per day and mileage.

The first explorers of this region were Spaniards from Mexico, who visited it in the middle of the 16th century and found it inhabited by a superior race of Aztecs or Toltecs, who lived in walled cities, had manufactures of cotton, and wool, irrigated and cultivated the soil, and who had reached a certain standard of civilization. In 1598 a settlement was made at San Gabriel, but was abandoned in 1605, at the founding of Sante Fe. The Territory was named New Mexico, mines were opened, and the Pueblo Indians forced into slavery to operate them. They revolted and in 1680 drove the Spaniards from the country. They returned in 1694 and built several towns, founding Albuquerque in 1706. During the Mexican War the United States forces under General Stephen Kearney invaded New Mexico and captured Sante Fe, Aug. 18, 1846. By the treaty of Guadaloupe Hidalgo, 1848, the entire Mexican possessions, now included in the United States, were ceded to the United States, and in 1850 they were organized as the Territory of New Mexico. Since then the area has been reduced by the cutting off of Arizona, and parts of Col-

orado, and Nevada. In October, 1903, Representative Hearst took members of the National Senate and House on a tour of this and other territories with the view of bringing about their admission as States.

New Netherlands, the collective name of the early Dutch settlements in what is now New York State.

Newnham College, an institution for the higher education of women, just outside of Cambridge, England.

New Orleans, a city and port of entry of Louisiana; on both sides of the Mississippi river, 100 miles above the delta; 700 miles S. of St. Louis. It is the most important city in population and trade in the Gulf States. Area, 42 square miles; pop. (1900) 287,104. The city is the greatest cotton market in the world, handling 3,000,000 bales per annum.

Recent educational statistics show 66 buildings used for school purposes; 683 teachers; and public school property valued at $1,500,000. The enrollment of pupils in private and parochial schools is 7,066, and the number enrolled in public day schools is 30,770, with an average daily attendance of 21,845. The institutions of higher education include the College of the Immaculate Conception, Tulane University, and its branch for women, Sophie Newcombe College, and the Straight University, Leland University, and the Southern and New Orleans Universities for negroes.

The French first occupied New Orleans under Jean de Bienville in 1718. It was made the capital of Louisiana in 1722. Forty years later it passed under the control of Spain when Louisiana was ceded to that country. The French again obtained possession of the province in 1800 and sold it to the United States in 1803. New Orleans was chartered as a city in 1804. On Jan. 8, 1815, it was the scene of a world-renowned battle in which General Jackson defeated the British. In 1862 Admiral Farragut forced it to surrender and it was occupied by Union troops under General Butler, who was appointed military governor. The prosperity of the city was interrupted by the war, but it has grown very rapidly since 1866.

New Orleans, Battle of, an engament fought on Jan. 8, 1815 (fourteen days after the treaty of peace), between a force of 12,000 British under Sir Edward Pakenham, and one of 6,000 Americans under Gen. Andrew Jackson. The latter were in a strongly intrenched position and awaited Pakenham's assault on their lines. The battle lasted only 25 minutes, when the British fled, leaving behind them 2,600 killed and wounded. Pakenham was among the slain. The Americans' loss was only 8 killed and 13 wounded.

New Orleans, The, a cruiser of the United States navy.

New Orleans University, a coeducational institution in New Orleans, La.; founded in 1873 under the auspices of the Methodist Episcopal Church.

Newport, a city, port of entry, county-seat of Newport co., and one of the capitals of Rhode Island; on the island of Rhode Island, in Narragansett Bay, about 30 miles S. E. of Providence. Its principal importance is as a summer resort, to which the coast near by is wholly given up. The harbor, one of the best on the coast, is defended by Fort Adams, one of the strongest forts in the United States. The United States Naval War College, United States Training Station, Torpedo Station, Naval Hospital, and Marine Barracks are located here, and there are besides the Round Tower, or Old Stone Mill in Touro Park, the Vernon house, which was Rochambeau's headquarters, built in 1780, etc. Pop. (1900) 22,034.

New South Wales, the oldest of the colonies of Great Britain, in Australia, and since Jan. 1, 1901, a State in the Australian commonwealth. At one time it comprised the E. half of Australia, but is now bounded on the N. by Queensland, on the S. by Victoria, on the E. by the Pacific Ocean, and on the W. by South Australia; area, 310,700 square miles.

The agricultural land, 2,206,500 acres, is chiefly under wheat and maize, oats and barley, and there is also a considerable area under sugarcane, vines, fruit trees, etc. Fruits and vegetables in great variety are grown, the principal fruit crop consisting of oranges. The rearing of sheep and cattle are the chief employments of the people, and wool is the most important article of export.

Sydney is the capital. There is no established religion. Among the religious sects the Church of England, Roman Catholics, Wesleyan Methodists, and Presbyterians hold the chief place. Primary education is compulsory. The educational system comprises lower and higher public schools, evening schools, and the University of Sydney. With it are affiliated three theological colleges, for Church of England, Presbyterian, and Roman Catholic students respectively.

New South Wales was discovered by Captain Cook in 1770, and founded as a penal settlement (at Botany Bay) in 1788. The most important events in its history since convict immigration ceased in 1840 are the establishment of representative institutions in 1843; the erection of Victoria into a separate colony in 1850; the important discovery in May, 1851, of extensive gold tracts, and the incorporation of the colony in the Australian commonwealth in 1901. The first railway, from Sydney to Paramatta, was opened in 1855. The colony celebrated its centenary in January, 1888. Pop. (1901) 1,359,537.

Newspaper, a printed paper published at regular intervals containing intelligence of past, current, or coming events; and presenting expressions of opinion by editorial and other contributors and the business announcements of advertisers. The prototypes of the newspaper are supposed to be the journals called "Acta Diurna," which were the bulletins sent from Rome, several centuries before the Christian era, in which accounts were given of the progress of the imperial arms, etc. The Peking "Gazette," the oldest daily in the world, was first issued about A. D. 1350. The earliest English newspaper in the true sense of the word was Butter's "Weekly News," of 1622. Advertisements first appeared in English newspapers in 1652. "The Public Intelligencer" appeared in 1663, and "The London Gazette" in 1665. The first newspaper on the American side of the Atlantic, "Publick Occurrences both Foreign and Domestick," was a monthly, first issued in Boston, Mass., by Benjamin Harris, Sept. 25, 1690; in 1702 appeared "The Boston Newsletter," and in 1729 Benjamin Franklin's "Pennsylvania Gazette," still published, and now known as "The Saturday Evening Post."

Newstead Abbey, the home of Lord Byron, 10 miles N. N. W. of Nottingham, England. The poet Lord Byron, who made the half-ruinous old place his home in 1808, sold it in 1818, since which time about $500,000 has been spent on its restoration.

New Sweden, the former name of the territory lying between the English colony of Virginia and the Dutch colony of New Netherlands. The Swedes founded a settlement here in 1627.

Newt, a small reptile, of which there are many varieties, the principal one being termed the great water newt. This specimen, when it is full-grown, measures about six inches in length, and in its appearance greatly resembles the salamander. The newt inhabits shady places and stagnant waters, and lives principally on insects, of which it consumes an immense quantity.

Newton, Henry J., an American inventor; born in Connecticut, in 1823; best known for his invention of the photographic dry plate process. He died in New York city, Dec. 23, 1895.

Newton, Hubert Anson, an American astronomer; born in Sherburne, N. Y., March 19, 1830; was graduated at Yale in 1850, and three years later became tutor of mathematics there, and in 1855 was made professor; holding the chair of mathematics till his death. Professor Newton is best known for his discoveries regarding the laws of meteoroids and comets and their connection. He was the first to suggest the introduction of the metric system into American arithmetics (1864). He died in New Haven, Conn., Aug. 30, 1896.

Newton, Sir Isaac, an English philosopher; born in Woolsthorpe, Lincolnshire, England, Dec. 25, 1642 (old style). In 1654 he was sent to Grantham School, and at the age of 18 removed to Trinity College, Cambridge. After going through Euclid's Elements, he proceeded to the study of Descartes' Geometry, with Oughtred's Clavis and Kepler's Optics, in all of which he made marginal notes. It was in this early course that he invented the method of fluxions. At the age

of 22 Newton took his degree of B. A., and about the same time he applied himself to the grinding of object-glasses for telescopes. Having procured a glass prism in order to investigate the phenomena of colors, the result of his observations was his theory of light and colors. It was not long after this that he made his grand discovery of the law of gravitation. On his return to the university, in 1667, he took his degree of M. A. Two years afterward he succeeded to the mathematical professorship, on which occasion he read a course of optical lectures in Latin. He had not finished them in 1691, when he was chosen fellow of the Royal Society, to which body he communicated his theory of light and colors, with an account of a new telescope invented by him, and other interesting papers. In 1704 he published his treatise on "Optics." In 1705 he received the honor of knighthood from Queen Anne. He died in Kensington, near London, March 20, 1727.

Newton, John, an American military engineer; born in Norfolk, Va., Aug. 24, 1823; was graduated at the United States Military Academy, second in his class. He served through the Civil War. Became Brigadier-General and chief of engineers in 1884; and was retired Aug. 27, 1886. His most famous engineering feat was the removal of obstructions in Hell Gate Channel, New York. After his retirement from the army he was commissioner of public works in New York city. He died in New York city, May 2, 1895.

Newton, Richard Heber, an American clergyman; born in Philadelphia, Oct. 31, 1840. After 1869 he was rector of All Souls Church, New York city.

Newton, William Wilberforce, an American clergyman, brother of Richard H.; born in Philadelphia, Nov. 4, 1843; and after 1881, rector of a Protestant Episcopal Church at Pittsfield, Mass.

New Year's Day, the day on which the year commences in the Gregorian calendar; the 1st of January; usually called New Year, or New Year's. The celebration of the commencement of the new year dates from high antiquity.

New York, a State in the North Atlantic Division of the North American Union; one of the original 13 States; number of counties, 61; capital, Albany; area, 47,620 square miles; pop. (1900) 7,268,012.

The E. part of the States is mountainous. The Adirondack system lies in the N. E. corner, W. of Lake Champlain, and contains the only great forest remaining as a public domain within the boundaries of the State. Its highest peaks are Mount Marcy, 5,379 feet; Mount MacIntyre, 5,183 feet; and Haystack, 4,919 feet. S. of the Adirondacks lie the Catskills, noted for their scenic beauty, and as a summer resort. These mountains form the termination of a chain extending into the State from New Jersey, and are a continuation of the Blue Ridge range. Another branch enters the State at its S. boundary and terminates in the Highlands on the Hudson. These mountains range in altitude from 1,500 to 3,500 feet. A third range extends N. as far as the Mohawk, and reappearing on the N. side of the river continues toward Lake Champlain, connecting with the Adirondacks. The W. portion of the State is undulating, descending in rolling terraces to Lake Ontario. The river systems are divided into two divisions, one flowing N. to the Great Lakes, and St. Lawrence, and the other reaching the Atlantic by the Hudson. The Hudson river, the most important in the State, rises in the Adirondack Mountains and is navigable for 150 miles. The St. Lawrence, forms 100 miles of the Canadian boundary. The lakes are numerous and noted for their beauty. One half of Lakes Ontario, and Champlain, and the E. end of Lake Erie are property of the State. Lake George, S. of Lake Champlain, is an extensive sheet of water and is a noted resort. The central portion of the State has an extensive lake system, containing Seneca, Cayuga, Oneida, Keuka, and Canandaigua lakes. The Adirondack region is full of lakes, including Long, Scroon, Upper and Lower Saranac, Placid, and Raquette. Chautauqua, in the S. W., and Saratoga and Otsego in the E. are among the many pleasure resorts. The waterfalls in the State are numerous, and include Niagara Falls, Trenton Falls, Genesee Falls, Portage, Taghkanie, and those near

Ithaca, and in Watkins Glen. There are many large islands, Manhattan, containing the greater part of New York city, Long Island, Staten Island, Coney Island, and Fire Islands are on the S. shore; and the St. Lawrence river contains over 700 small islands belonging to the State. The entire State is noted for its scenery. The chief harbors are New York, on New York Bay; Dunkirk and Buffalo on Lake Erie; Tonawanda, and Lewiston, on Niagara river; Genesse, Sodus, Oswego, Sacketts Harbor, and Cape Vincent on Lake Ontario; Ogdensburg on the St. Lawrence; Rouse's Point, Plattsburg, and Whitehall, on Lake Champlain; and Sag Harbor on the E. end of Long Island.

About one half the area of the State is adapted to cultivation. The principal forest trees are the maple, oak, pine, elm, hickory, beech, birch, ash, hemlock, spruce, cedar, poplar, willow, whitewood, chestnut, basswood, butternut, sycamore, locust, ailantus, black walnut, yew, and sumach. Agriculture is carried on to a large extent, New York being one of the leading agricultural States in the Union. The principal farm crops in 1900 were corn, wheat, oats, barley, rye, buckwheat, hay, and potatoes.

In 1900 the principal mineral productions were salt, gypsum, mineral water, petroleum, fibrous talc, metallic paint, mortar colors, portland cement, rock cement, natural gas, marble, slate, sandstone, granite, clay products, and iron.

The river systems with their extensive water power, the proximity of the Pennsylvania coal fields, and the facilities for transportation make New York one of the most prominent manufacturing States. Niagara Falls gives enormous power which is turned into electricity. Schenectady is famous for its locomotives and electrical apparatus, Balston Spa for its paper mills, Elmira for its car shops, Oswego for flour mills, Kingston for hydraulic cement, Haverstraw for bricks, Rochester for optical goods, Syracuse for salt, and Brooklyn, New York city, Buffalo, Utica, Albany, Troy, Binghamton, Yonkers, and Long Island City for general manufactures. According to the Federal census of 1900 there were 78,658 manufacturing establishments, employing $1,651,210,220 capital and 849,056 persons; paying $408,855,652 for wages and $1,143,791,776 for materials; and yielding products having a combined value of $2,175,726,900.

On Oct. 31, 1901, there were reported 345 National banks in operation, with an aggregate capital stock of $105,945,515; outstanding circulation, $60,189,116; and United States bonds and deposits, $54,290,400. There were also 188 State banks, with $28,885,700 in capital, $18,310,418 in surplus; and $468,488,357 in resources; 14 private banks, with $311,800 in capital, $46,561 in surplus, and $2,304,195 in resources; 128 mutual and stock savings banks with $987,621,809 in savings deposits, $116,975,246 in surplus, and $1,105,076,764 in resources; and 58 loan and trust companies, with $47,450,000 in capital, $76,743,013 in surplus, and $966,528,399 in resources.

New York is the most important commercial State in the Union, the greater part of the European commerce being carried on through the port of New York. The imports of merchandise at New York city during the year ending June 30, 1891, aggregated in value, $527,275,906; exports, $529,592,978. Total imports of the State, $539,970,246; total exports, $564,460,025. The imports of gold at the ports of New York, Champlain, Oswegatchie, and Niagara, aggregated $478,772, silver, $705,079; exports, gold, $5,117,222, and silver, $3,942,199. The commerce is carried on with the entire world.

At the end of the school year 1900–1901 the children of school census age numbered 1,621,087; the enrollment in public schools, 1,242,416; and the average daily attendance, 873,157. There were also 178,028 children attending private and parochial schools, making a total school registration of 1,420,444. There were 11,932 buildings used for public school purposes; public school property valued at $87,292,414, and 34,848 teachers, receiving $21,504,619 in wages. There were 369 public high schools, 202 private secondary schools, 15 public and private normal schools, 23 colleges and universities for men and for both sexes, and 5 women's colleges. The principal colleges include, Columbia University, New York University, Manhattan College, New York city; University of Buffalo at

Buffalo; Cornell University at Ithaca. The women's colleges include, Vassar College at Poughkeepsie; Wells College at Amora; and Elmira College at Elmira.

The sum of $37,500,000 was spent in the State of New York in the year 1901 on the public school system. All this money, with the exception of about $1,000,000 used for administrative purposes, was expended in the teaching of about 1,250,000 children. But comprehensive and vast as this system of public school education is, it by no means represents all that is done by the State and its various communities for popular instruction. New York has worked out, to an extent that no other commonwealth has ever approached, a system of adult education.

This education, in the full elaboration of the system, reaches out to the individual in his home, and shares, especially with farmers, some of the puzzling problems of their daily toil. It entertains and instructs hundreds of thousands of people in New York city with an elaborate system of lectures. It presents a system of instruction in travel and geography to 25,000 teachers of the State by duplications, with an accompanying lecture, of the most beautiful lantern slides ever exhibited.

Extensive as this system of adult education is it represents a cost of not more than $300,000 to the State and the various communities engaged in it.

"The Free Lecture System of New York City" is what the leading system of adult education in the metropolis is called. It has been and is an attempt to apply university extension methods to the masses of a great city. The legislature provided for the movement in 1888, and for two winters the lectures were under the supervision of the Committee on Evening Schools.

By no means second in importance to the free lecture course in New York city is the system of visual instruction supported by the State under the direction of Dr. Albert S. Bickmore of the American Museum of Natural History. This system is based primarily on the exhibition of stereopticon views. It is essentially a course in travel, for it deals with what may be seen chiefly in travel. Its leading purpose is to benefit the teachers of the State, and it was for that reason that the State took up the work.

These lectures arose from a desire to make the American Museum of Natural History a means of direct benefit to the people. There was also the expectation of interesting the people in the museum. They have been a success from the time of their beginning in 1882. It requires much office machinery to keep the system in operation, for no less than 90 sets of slides for each lecture are made. The number of slides made, almost all of which are colored, reaches 34,000 a year. The law permits the sale of the slides at cost price, one to each State, on the sole condition that there shall be no admission fee charged when they are shown and that they shall be part of the system of "free common schools of the State."

It is interesting to note that the lectures recently sent to the Philippines were "Manhattan and the Highlands of the Hudson," "Niagara Falls," "Coast of New England," "Pennsylvania, Virginia and District of Columbia," "Yellowstone" and "California and Yosemite Valley." The Filipinos will get a pretty good idea of this country from those views. For use in the great Methodist mission in Madras, India, lectures on "Across America," "Hawaii," "Egypt," "Paris Exposition of 1900" have been sent.

Altogether novel is the University Extension work solely for agricultural purposes, carried on by the State through Cornell University. The sum of $35,000 is set apart for that work. It may be divided into two classes, that for the farmers and their wives, and that for the school children in nature study. The work is carried on to a great extent through printed matter. There are enrolled in the Farmers' Reading Course 30,000 men. In the Farmers' Wives Reading Course there are enrolled more than 8,000 women. The Junior Naturalists' Clubs have more than 30,000 pupils, and 1,500 teachers are enrolled as members of the Home Nature Study course.

The People's University Extension Society of New York gives instruction, largely through the coöperation of churches to adults. Much of this work is for mothers.

The strongest denominations in the State are the Roman Catholic, Methodist Episcopal, Regular Baptist,

Protestant Episcopal, Reformed Jewish, Congregational, Lutheran General Council, and Lutheran Synodical Conference.

On Jan. 1, 1901, the total length of railroads within the State was 8,225 miles, of which 32 miles were constructed during the previous year.

The total public debt of the State on Sept. 30, 1901, was $10,075,660. In 1901 the equalized valuation amounted to $5,686,921,678; divided as follows: real estate, $5,093,025,771; and personal property, $593,895,907. The tax rate was $1.20 per $1,000, and the total tax levied was $6,824,306.

The governor is elected for a term of three years, and receives a salary of $10,000 per annum. Legislative sessions are held annually, commencing on the first Wednesday in January, and the length of the session is unlimited. The Legislature has 50 members in the Senate and 150 in the House, each of whom receives $1,500 per annum, and mileage. There are 34 Representatives in Congress. In 1901 the State government was Republican.

The first explorations of New York were made by Champlain and Henry Hudson in 1609; Champlain coming down from Canada, as far as the lake which bears his name, and Hudson, discovering New York Bay, and sailing up the Hudson river. The region surrounding the Hudson was claimed by the Dutch, who called the place New Netherlands. The Dutch settlements were invaded by the English from Connecticut, and by the Swedes in Delaware. The English claimed New Netherlands as part of Virginia, priorly discovered by Cabot, and Charles II., in 1664, granted a charter of all the lands lying between the Hudson and the Delaware to his brother, the Duke of York. In August of the same year the whole country passed into the possession of the English, who gave the name of New York to New Amsterdam, and that of Albany to Fort Orange. When the Duke of York ascended the English throne as James II., the government became an appendage to the crown, and was administered by viceroys bearing the title of governor. In 1684 Governor Dongan concluded an offensive and defensive treaty with the Indians; and from that time forward the English became their allies and fast friends. The great conflict between England and France to decide the sovereignty of America broke out in 1754. In 1756, the French destroyed Oswego; and, in the following year, Fort William Henry capitulated to the French, when the English garrison was massacred by the Indian allies of the victors. In 1758 General Abercrombie was defeated at Ticonderoga, and Colonel Bradstreet took Fort Frontenac. In 1759 Niagara surrendered to General Prideaux and Sir William Johnson, and Ticonderoga and Crown Point were abandoned, leaving no French troops within the limits of the colony. In 1775 the Revolutionary War broke out, and in February, 1776, an American force took possession of New York city, which they held till the defeat at Long Island in August. In 1786 New York city was evacuated by the British. The first constitution of the State was adopted in 1777. In 1788 New York adopted the Federal Constitution. The national government was first located in New York city, which was the State capital till 1797. During the War of 1812 important events took place on the N. boundary, along Lake Ontario, the Niagara river and on Lake Champlain. Slavery was abolished in 1817. Steamboat navigation was begun on the Hudson in 1807, and in 1825 the Erie Canal was completed from the Lakes to the Hudson. New York took an active part in the Civil War, supplying large numbers of troops to the army.

B. B. Odell, Jr.

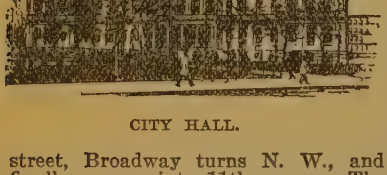
New York, a city in Southern New York; coextensive with New York, Kings, Queens, and Richmond counties; on New York Bay, the Hudson and East rivers, Long Island Sound and the Atlantic Ocean; the first city in the United States in population and commercial importance, second in the world in population, and first in commercial importance; connected with all parts of the world by railroads and steamship lines; area, 308 square miles; pop. (1900) 3,437,202.

The city is divided into five boroughs: Manhattan, consisting of Manhattan Island, Governors Island, Bedloes Island, Ellis Island, Blackwell's Island, Randall's Island, Ward's Island and Oyster Island; Bronx, con-

sisting of all that portion of the city lying N. or E. of the Harlem river, between the Hudson and the East rivers and Long Island Sound, including City, Traver's, Hart's, and Riker's Islands; Brooklyn, consisting of the former city of Brooklyn, and all of Kings county; Queens, including the present county of that name; and Richmond, consisting of Staten Island.

The main body of the city, situated on Manhattan Island is bounded by Spuyten Duyvil creek, and the Harlem river, separating it from the mainland of the State, the East river, New York Bay, and the Hudson river.

At the S. end of Manhattan Island is the Battery, a park of 21 acres having a fine water front. Running N. from the Battery is Broadway, the principal business street. At 10th



CITY HALL.

street, Broadway turns N. W., and finally merges into 11th avenue. The streets in the S. part of the city are narrow, crooked and irregularly laid out, but beginning with 13th street, they become regular, crossing each other at right angles.

The public parks of New York city are very numerous and well kept. There are 49 parks in Manhattan, 17 in the Bronx, 38 in Brooklyn, and 5 in Queens. The larger parks, are Central Park, 840 acres, in Manhattan, Bronx Park, 662 acres, and Van Cortlandt Park, 1,132 acres, in the Bronx, and Prospect Park in Brooklyn. The services of Hon. Andrew H. Green, "father of Greater New York," and who had full control for thirteen years of the construction of Central Park, accounting faithfully for every penny of millions of dollars, will never be forgotten. Central Park contains about 30 buildings, including th Metropolitan Museum of Art, th American Museum of Natural His tory, and the old United States Ar senal; two extensive reservoirs, nu merous lakes, and children's play grounds. The Bronx Park contain a botanical garden, and a large reser vation, used as a zoölogical garden Van Cortlandt Park is an extensiv stretch of rural country, containing large skating pond, baseball fields, gol links, and a militia parade ground Numerous other parks, scattered abou the city include, City Hall Park, con taining the Postoffice and City Hall Riverside Park, extending severa miles along the Hudson river and con taining the tomb of General Grant and Morningside Park, situated on high ridge E. of Riverside and contain ing the buildings of Columbia Uni versity, the new cathedral of St. John the Divine, and St. Luke's Hospital Parkways are designed to connect Van Cortlandt Park with Bronx Park Pelham Bay Park and Crotona Park In Brooklyn, Ocean Parkway extends from Prospect Park to Coney Island The Speedway, a public road for fast driving, 100 feet wide, extends for a distance of two miles along the foo of the bluff on the W. bank of th Harlem river.

Among the public buildings is th City Hall, 216 by 105 feet, and three stories high; completed in 1812 at a cost of $500,000. In the rear of th City Hall is the Court House. Th City Prison and Hall of Records are noted for their fine architecture. New York is noted for the number and height of its office buildings. Among the more prominent of these are th Park Row Building, 385 feet in height; Pulitzer Building, containing the offices of the New York "World" the New York Life Insurance Building; Bowling Green Building; American Surety Building; American Trac Society; Broad Exchange Building Manhattan Life Building; Commercial Cable Building; Empire Building Standard Oil Building, and Washington Insurance Company, all over 250 feet in height.

New York is also noted for the number and magnificence of its hotels There are over 50 theaters and music halls in the city.

The city is lighted by gas and electricity. The waterworks system, owned by the city, cost $113,300,000, and has a capacity of 538,000,000 gallons per day. There are 2,466 miles of streets, of which 1,643 miles are paved; 1,423 miles of sewers; and 1,670 miles of water mains. The city

PARK ROW BUILDING.

government is maintained at a cost of $86,000,000 per annum. The annual death rate is 18 per 1,000.

In 1902 there were 580 churches of all denominations in the boroughs of Manhattan and the Bronx, including: Roman Catholic, Protestant Episcopal, Methodist Episcopal, Presbyterian, Baptist, Jewish, Lutheran, Reformed, Congregational, and other denominations. The Reformed Church is the oldest in the city, and dates from 1628. The Protestant Episcopal is next in age, and Trinity is the oldest and wealthiest parish, maintaining several chapels. The first Presbyterian Church was founded in 1719 in Wall street, and is now at Fifth avenue and 11th street. The Fifth Avenue Presbyterian, and the Roman Catholic Cathedral at Fifth avenue and 50th street are among the more prominent churches in the city.

The hospitals in New York are among the finest in the world. In the boroughs of Manhattan and Bronx

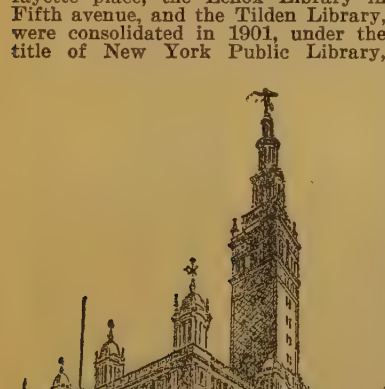
MASONIC TEMPLE.

there are 82 hospitals. There are 130 asylums and homes, and many benevolent societies.

The department of education is conducted by a board of 46 members appointed by the mayor. This board has the care and control of all property of the city used for school purposes, and supervises the various executive officers of the department. The Board of Education appoints a City Superintendent for a term of six years. He is the chief executive officer of the board, conducting the business of the department in accordance with its regulations. Recent statistics give the children of school age as 733,416; the enrollment in public schools 494,330, in private and parochial schools, 89,837; and the average daily attendance in

public schools, 358,897. There were 425 public school buildings; public school property valued at $46,421,766; and 9,305 public school teachers. For higher education there were 9 public high schools, 72 private secondary schools, and a number of colleges and universities. The medical schools are numerous. There are also dental colleges and art schools, besides a number of musical schools.

The libraries of the city are very extensive. The Astor Library in Lafayette place, the Lenox Library in Fifth avenue, and the Tilden Library, were consolidated in 1901, under the title of New York Public Library,



MADISON SQUARE GARDEN.

Astor, Lenox and Tilden Foundations. Among the other libraries of importance are the Mercantile, Society, Apprentices', Cooper Union, Free Circulating, Columbia University, New York City, New York Historical Society, and the Brooklyn libraries. There are law libraries in the post-office building, at the Bar Association, at the Equitable Life Insurance Company, and the New York Law Institute Library. In 1901 Mr. Andrew Carnegie presented the city with $5,200,000 for the purpose of erecting libraries. This gift is to be used for the erection of 65 branch library buildings in various parts of the city.

On Oct. 31, 1901, there were reported for the boroughs of Manhattan and Bronx, 43 National banks, with $73,400,000 capital; 40 State banks, with $11,732,700 capital; 26 savings banks, with $261,627,276 in savings deposits; 18 safe deposit companies; and 38 trust companies. The exchanges at the United States clearing house in New York city, during the year ending Sept. 30, 1901, aggregated $77,020,672,494; an increase over those of the preceding year of $25,056,083,930.

The imports of merchandise at the port of New York, during the year 1900 aggregated in value $528,896,269; exports, $539,802,266. Over one-half the import, and one-third the export trade of the United States is carried on through this port. New York has steamship communications with the entire civilized world, with over 100 steamship lines. About three-fourths of the immigrants entering the United States land at New York, the immigrant station at Ellis Island having accommodations for 10,000 per day. There are numerous exchanges in the city. The New York Chamber of Commerce, chartered in 1770, is the oldest commercial corporation in the country and has a membership of about 800.

New York city has upward of 100 street railway lines, most of which are equipped with electricity. The elevated railways in Manhattan and the Bronx are united under one management, the Manhattan Railway Company. There are five elevated lines in Brooklyn, all under the Brooklyn Heights Railroad Company. Electric cars connect with all the suburbs and many places on Long Island, Westchester county, and Western Connecticut. There are ferry lines connecting with Brooklyn, Jersey City, Weehawken, Staten Island, Hoboken, Long Island City and other cities, and islands about the city. There are steamship lines connecting with over 140 points on the Hudson river, the Atlantic coast, Long Island Sound, and the bay. Manhattan is united with Brooklyn by the East river bridge. A second bridge N. of the Brooklyn bridge is nearly completed,

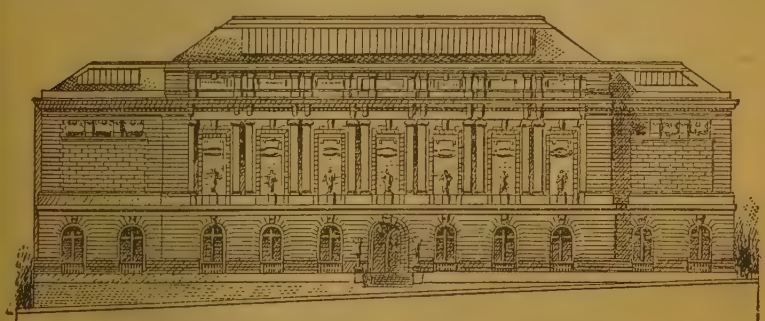
as was also one across the Hudson, and another across the East river at Blackwell's Island. Several attempts have been made to tunnel the Hudson river, and work has begun on a large tunnel under the two rivers and Manhattan Island, uniting the Pennsylvania and Long Island railroads in a large terminal station in New York city.

The bridges of New York have been described, to some extent in the article on "Bridges," It may be added here that the new East River bridge — the Williamsburg bridge, as it is often called — will be the first finished of the three great spans planned to cross the East River. It is said that it will be open for vehicular and pedestrian traffic before the first of 1904. At an estimated total cost of $21,000,000, the Williamsburg bridge has continued, since the first contract was let in July, 1896, to rise steadily and impressively — a tremendous if inartistic architectural achievement. In October, 1903, with 425 men working along the high network, it has taken the form and appearance of a nearly finished structure. Between the terminals the length of the entire bridge is 7,200 feet. The length of the main or river span, from center to center of the towers on the water's edge, is 1,600 feet. These towers are 333 feet high. The extreme width of the bridge is 118 feet. There will be two carriageways, two bicycle paths, two footwalks, two elevated railway tracks and four trolley tracks. Two of these trolley tracks may be used ultimately for the proposed moving sidewalk, which is designed to begin at Bowling Green, pass the Brooklyn and the proposed Manhattan bridges, and cross by the Williamsburg Bridge to Williamsburg.

The new rapid transit system will not merely add four new lines of track to the already large number of N. and S. lines which extend the full length of Manhattan Island, but it will provide a service of express trains which in point of frequency and speed will, it is claimed, be positively without rival.

According to the Federal census of 1900 there were 39,776 manufacturing establishments reported in the city, employing $921,876,081 capital and 462,763 persons; paying $245,021,881 for wages and $709,109,412 for materials; and having a combined output valued at $1,371,358,468. The principal articles, according to value of output, were men's clothing, in factories; women's clothing, in factories; sugar and molasses, newspapers and periodicals, foundry and machine shop products, malt liquors, cigars and cigarettes, meat, wholesale, excluding packed meat, bakery products, men's clothing, custom work, coffee and spices, and millinery and lace goods.

The charter in force in 1902 took effect Jan. 1, 1902. Under this charter the city is governed by a mayor elected for 2 years; a controller, also elected for 2 years; and a board of



NATIONAL ACADEMY OF DESIGN.

aldermen, consisting of 73 members, elected for 2 years, and a president elected at large for the same term. For convenience of local administration the city is divided into 5 boroughs, Manhattan, Brooklyn, Bronx, Queens, and Richmond. The president of each borough is elected for 2 years. There are in the entire city 46 local school boards, and 25 boards of local improvement.

This city is now unquestionably the clearing house of the United States. The average daily deposits of the clearing house banks of New York amounted in 1890 to about $400,000,000; in 1901 they were about $1,000,000,000. The nonclearing house banks now have about $80,000,000 deposits; the savings banks of the State, $1,131,000,000—more than double the amount in 1890, all practically subject to the city. The trust companies have $969,000,000, against scarcely a third of that sum 10 years ago. Granting duplications, it is safe to say that these deposits represent more than $2,000,000,000 available for investment — the greatest amount of money accumulated in one place in so short a time in the history of the world. Observe, too, the comparative increase in the transactions of the New York and London clearing houses. In 1890 each of these cities cleared about $37,000,000,000. In 1901 London exchanges amounted to only $46,000,000,000, while New York leaped to the startling figure of $79,000,000,000. The building of a canal across the American isthmus will make New York geographically the most important commercial center in the world. Couple this with the probable future trade with the far East and the comparative proximity of the United States to that market, and the possibilities before this metropolis will be still more strongly realized.

In 1609 the Island of Manhattan was first visited by Hendrik Hudson, who ascended the river which bears his name. In 1613 Adrian Block, a merchant, arrived and built four houses. In 1623 a Dutch colony was established and in 1626, Peter Minuit, the governor, bought Manhattan Island from the Indians for $24 in trinkets. This colony was known as New Amsterdam. It passed into the possession of the English in 1664, and was named New York. In 1673 the town surrendered to a Dutch squadron, but was given back a year later by treaty. In 1765 the Stamp Act Congress met in New York city, and voted a Declaration of Rights. In 1774 a cargo of tea was sent back to England and another thrown overboard, and on April 3, 1775, the colonial assembly adjourned. The city was held by the Continental militia till Aug. 26, 1776, when forced to withdraw by the British who held the city till Nov. 25, 1873. Washington was inaugurated the first time in New York city, April 30, 1789. In 1805, the first free school was opened; in 1807 the first steamboat voyage to Albany was made, and in 1825 the Erie canal was opened. In 1853 the Crystal Palace Industrial Exhibition took place, and in 1863 occurred the draft riot caused by the enforcement of the military draft. The city supplied the Union army with 116,382 troops for the Civil War. The Brooklyn Bridge was opened in 1883; and the Bartholdi Statue unveiled in 1886. The celebration of the centennial of Washington's inauguration took place in 1889; and the Columbian celebration in 1892 and 1893. In 1897 a new charter was adopted consolidating New York, Brooklyn, Queens county, Staten Island, and the Bronx as the City of Greater New York. This charter went into effect Jan. 1, 1898, and was amended in 1901.

New York, The, a twin-screw, armored cruiser of the United States navy. The "New York" was the flagship of Admiral Sampson in the Spanish-American War.

New York Public Library, established by consolidation of "The Trustees of the Astor Library," "The Trustees of the Lenox Library," and "The Tilden Trust," May 23, 1895, 21 trustees being chosen from the trustees of these corporations. The agreement of consolidation provided for the establishment and maintenance of a free public library and reading room in the city of New York, with such branches as might be deemed advisable for the continued promotion of the objects and purposes of these several corporations. The Astor Library was founded in 1849, by John Jacob Astor and his endowment was increased, and land and buildings added, by the benef

icence of various members of the Astor family. The Lenox Library was founded by James Lenox, who gave land on Fifth avenue, between 70th and 71st streets, large funds and a valuable collection of Bibles, manuscripts, and Americana. It received subsequently large endowments from his sister, Miss Henrietta Lenox, from Mrs. R. L. Stuart, and others. The Tilden Trust, incorporated in 1887, was created by the will of Samuel J. Tilden, made in 1884, which gave his entire residuary estate to trustees to establish and maintain a free library and reading room. A long contest in the courts resulted, before the termination of the suit, in an agreement of compromise by which the Tilden Trust became possessed of over $2,000,000, a result due chiefly to the efforts of Hon. Andrew H. Green.

The best permanent site for the library was considered to be in Bryant Park, on the site of the reservoir. In May, 1896, the Legislature passed a law authorizing the removal of the reservoir and the lease of the land to the library. On May 19, 1897, another act was passed providing for the construction by the city of a library building on the reservoir site, and for its lease to the library. The building will front on Fifth avenue, looking E. The greatest projection of the main facade of the building is 75 feet back of the Fifth avenue building line. On the first floor will be the main exhibition room. On the second floor will be the rooms of the director and trustees, lecture room, and reading room. The top floor will contain the Stuart collection. There will be about 140 feet of ground between the W. elevation of the building and the present park. The reservoir has been removed and the foundation for the new building completed and the corner-stone for the building laid. The Park Department, acting on behalf of the city, entered into a contract with contractors to construct the building at a cost of $2,865,706. On Dec. 11, 1900, the trustees of the New York Free Circulating Library offered to consolidate with the Public Library, and on Feb. 23, 1901, an agreement of consolidation was effected. An act permitting libraries to deed their properties to the Public Library became a law on March 6, 1901, and under it the St. Agnes Free Library and the Washington Heights Free Library have conveyed all their property to the Public Library.

New York University, a coeducational, non-sectarian institution in New York city; founded in 1831.

New Zealand, a colony of the British empire, consisting of a group of islands in the South Pacific Ocean, two large islands, called North and South (or Middle) Islands, and a third of comparatively insignificant size, Stewart Island; length of the group, N. to S., about 1,000 miles; area, 104,471 square miles. Pop. (1900) 796,389, of whom 39,854 were Maoris. Capital, Wellington.

New Zealand is rich in minerals. Coal is abundant; iron, tin, silver, and copper are also found in various regions. Gold, discovered in 1861, is worked both in North and South Islands. The output in 1899 was valued at $6,052,948. The climate is varied, though healthful. Rapid changes are a notable feature of the weather. Among vegetable productions the most characteristic are the ferns which form almost the only vegetation over immense districts. Some of them are more than 30 feet high, and remarkable for the elegance of their forms. The flax plant furnishes an article of export. A number of the forest trees furnish valuable timber. Among others is the kauri or damar pine. The colony produces every English grain, grass, fruit, and vegetable. In animals New Zealand is singularly deficient, only a sort of dog, a rat, and two species of bats being indigenous. Rabbits have been introduced and have multiplied so as to become a perfect pest; pigs now run wild, as well as cats. Pheasants, partridges, quails, and red and fallow deer have also been successfully introduced.

The original natives of New Zealand, a people of Polynesian origin, are called Maoris. Their numbers have been so reduced by internecine feuds that they do not now exceed 40,000, all of whom, with the exception of a few hundreds, are located in the North Island.

By the constitution the crown appoints the governor; but the legislative power is vested in the General

Assembly, of two houses — a Legislative Council consisting of 48 members nominated by the crown for life; and a House of Representatives, which is made up of 74 members, including 4 Maoris, elected by the people for three years. The governor is aided and advised by a ministry comprising the chief officers of state, who are members of the General Assembly. For colonial defense a number of volunteers have been enrolled (about 8,500); the chief ports are also being put in a state of defense. There is no State-aided Church, but most Christian sects are well provided for. The Church of England is most numerously represented. Elementary education is free, secular, and compulsory. Secondary education is provided for in numerous high schools, grammar schools, colleges, etc.

Stock-rearing and agriculture are the most important industries, though mining is also an important occupation. There are about 30,000,000 sheep in the colony, and by far the most important export is wool; frozen meat and grain are also largely exported. Gold is the most valuable export next to wool; others are tallow, timber, kauri-gum.

New Zealand was discovered by Tasman in 1642, but little was known of it till the visits of Cook in 1769 and 1774. The first permanent settlement was made by missionaries in 1815. In 1840 New Zealand was erected into a colony; in 1841 it was formally separated from New South Wales and placed under its own independent governor; and in 1852 it received a constitution. In 1865 the seat of government was removed from Auckland to Wellington. In 1873 the public works policy was inaugurated, and large loans were raised for immigration, harbors, railways, roads, etc. In 1876 the provinces were abolished; the colony was divided into 63 counties, and all government centralized at Wellington.

Ney, Michael, Duke of Elchingen and Prince of Moskva, peer and Marshal of France; born in Saarlouis, France, Jan. 10, 1769. His early years were devoted to the study of the law, but disliking the confinement, he entered the army as a private hussar in 1787. He was distinguished in the first years of the Revolutionary War, when serving with the army of the Rhine; and in 1796 he rose to the rank of Brigadier-General. He was one of Napoleon's bravest marshals. Ney accepted command under the restored Bourbon king after Napoleon's overthrow, but when the latter returned from Elba Ney went over with his army to his former friend and master. He again fought under his banner at the battle of Waterloo. After the conclusion of that eventful day, and the second abdication of Napoleon, Ney was advised to quit France; he was arrested, and brought to trial; and his colleagues having declared themselves incompetent to form a court-martial the affair was carried to the House of Peers, by whom he was condemned. He was shot Dec. 7, 1815, in the garden of the Luxembourg, Paris.

Nez Perces, a tribe of American Indians, chiefly settled in Idaho, on the Lapwai river. The Nez Perces proper have always been loyal to the whites, and are making good progress in civilization; but in 1877 the treaty reductions of their reservation led to a sanguinary outbreak on the part of the "non-treaty" Nez Perces, who attacked settlers, fought the soldiers, and then fled across Idaho, Montana, and Dakota. They were overtaken and beaten, and the survivors (some 350) transferred to Indian Territory; but in 1885 some were restored to Idaho, and the rest joined the Colville Indians, in Washington.

Niagara Falls. The Niagara river, which flows from Lake Erie N. into Lake Ontario, is about 36 miles in length; its descent from the level of one lake to that of the other is about 334 feet. At the foot of Grand Island, which reaches within 1½ miles of the Falls, the river is contracted to a width of 2½ miles, and grows narrower as it proceeds. By this, and by the descent in the channel, which is about 60 feet in the mile, are produced the swift currents known as the rapids, in which the river, notwithstanding its great depth, is perpetually white with foam. At the Falls, which are 22 miles from Lake Erie, the river is divided by an island called Goat Island; but the largest portion of the water is sent down by the Canadian

side. On this side is the grander cataract which has been named the Horseshoe Fall, and which is about 600 yards in width and 154 feet high. The water rushes over with such force that it is thrown about 50 feet from the foot of the cliff. The separation caused by Goat Island leaves a large wall of rock between the Canadian and American falls, the latter being again divided by an islet at a short distance from Goat Island. This fall is from 8 to 10 feet higher than the Horse-shoe, but only about 220 yards wide. The river is crossed by a suspension bridge, and by a ferry about 200 or 300 yards below the Falls, where it is 1,200 yards wide. A stratum of rock runs across the direct course of the river, 3 or 4 miles below, which, after forming a vast circular basin, with an almost impassable whirlpool, is forced away at right angles to its old channel.

The total energy of the Falls is calculated at 16,000,000 horse power, and the work of utilizing this power is the beginning of the most stupendous engineering feat ever undertaken. On April 15, 1895, the first large dynamo was run at full speed, 250 revolutions per minute, and proved quite satisfactory. On July 1 the first electric power transmitted for commercial purposes, 4,000 horse power, was sent to an aluminum factory a mile distant. Various other developments were afterward reported in rapid succession. On Jan. 17, 1896, the Niagara Falls Power Company accepted a grant for the transmission of electric power for lighting and power purposes to Buffalo.

Niagara, Fort, an old fort of Ontario, Canada, built by the French in 1727. It is still garrisoned.

Niagara International Park, a reservation on both sides of Niagara river and falls, set apart for public purposes by the joint action of the Legislature of New York State and the Dominion of Canada.

Niagara University, an educational institution in Niagara Falls, N. Y., founded in 1856 under the auspices of the Roman Catholic Church.

Niam-niam, an African people dwelling along the watershed that parts the feeders of the Bahr al-Ghazal from those of the Welle-Makua and other N. tributaries of the Kongo. They are a branch of the A-Sandeh tribes, who all belong to the stock of the negroid Nubas. They are passionately fond of music, and play a kind of mandolin. Polygamy prevails. The weapons are spears, knives, a species of iron boomerang, and shields.

Nias, an island belonging to Holland; W. of Sumatra; has an area of about 2,100 square miles.

Niblack, Albert Parker, an American naval officer; born in Vincennes, Ind., July 25, 1859; was graduated at the United States Naval Academy, in 1880; on duty at the Pacific Station, engaged in exploration in Alaska; served in the Squadron of Evolution and the Atlantic Squadron, and for several years acted as lecturer in the Naval War College. He served in the Cuban blockade, on the flagship "Olympia" in the battle of Manila Bay, and subsequently on the "Brooklyn."

Nicaragua, a republic of Central America; reaching from the Caribbean Sea to the Pacific, between Costa Rica on the S. and Honduras on the N. and E. (Caribbean) coast measuring 290 miles and the W. coast 185 miles; area 49,200 square miles; pop. 420,000, including 40,000 uncivilized Indians.

The Central American Cordilleras form the backbone of the country; they run N. W. and S. E. at a distance of 12 to 30 miles from the Pacific, and attain elevations of 4,000 and 5,000 feet above sea-level. On the W. the surface sinks rapidly to a longitudinal depression the S. two-thirds of which are filled by the large lakes of Nicaragua and Managua, the latter lying N. of the former and 25 feet higher. This depression is studded with a chain of volcanic cones, standing on islands in the lakes and clustering thickly between the N. end of Lake Managua and the Gulf of Fonseca at the N. W. extremity of the country. Though most of these are quiescent, some of them burst forth in eruption from time to time; Ometepec poured out its lavas during seven days in 1883. Another low range separates this depression from the Pacific. The districts W. of the central backbone are the chief seats of the population. There stand the towns Managua (the capital), Leon, Granada, Chinandega, Rivas.

On the W. coast there are three harbors — the Gulf of Fonseca in the N. Salinas Bay in the S., and the port of Corinto toward the N. The only port on the E. side is Greytown, at the mouth of the San Juan river. E. of the Cordilleras the surface falls away gradually; the spurs that break off from the main ridge sink into the low alluvial plains that face the Caribbean Sea. Thick forests clothe extensive areas on this side. Several rivers carry off the surplus water E., a few being of good length. The low coast-belt, called the Mosquito Territory, is lined with salt lagoons.

The mountain-spurs E. of the main chain are rich in minerals; gold is mined in the neighborhood of Libertad on to Matagalpa, in the heart of the country, and silver near the sources of the Coco in the N.; coal, copper, tin, iron, lead, zinc, antimony, quicksilver, marble, etc., exist but are not worked.

As a rule the climate varies between 70° and 90° F., and there is a dry season lasting from about December to May.

The natural products of the soil are tropical. The forest trees include mahogany, rosewood, logwood, fustic, sandal-wood, india-rubber, and numerous others that yield fancy woods, medicinal plants, gums and dyewoods. Large herds of cattle are bred and reared on the extensive plains of the center and E. The rich soil of the cultivated W. region yields maize, coffee, cocoa, sugar, cotton, rice, tobacco, indigo, and a great variety of tropical fruits.

The state religion is the Roman Catholic, but all creeds are tolerated.

The country is governed by a president (elected for four years), a legislative assembly of 11 members, and a senate of 10; both these bodies are elected by the people, the former for four, the latter for six years.

The public revenue is derived chiefly from monopolies on spirits, tobacco, and gunpowder, and from import dues. The national debt amounts to $3,037,535.

During the Spanish supremacy (after 1550) Nicaragua was a province of Guatemala. In 1821 it asserted its independence, and two years later joined the federation of the Central American states, a connection that lasted 16 years. The history of the country after the severance from Spain till 1865, is a record of war and dissension. This region was given up to Nicaragua in 1860. Between 1855 and 1860 the aristocratic and the democratic party were fighting, the latter being assisted by the adventurer William Walker. Since then Nicaragua has made laudable efforts to develop her resources and to advance along the path of civilization, and she now compares most favorably with her sister republics in Central America.

A bill providing for the construction of a canal across Nicaragua connecting the Atlantic and Pacific oceans was adopted in the United States Senate Jan. 21, 1899. It provided that the canal should be completed in six years; should be capable of accommodating the largest ocean steamers; and should cost not over $115,000,000. The bill also guaranteed the neutrality of the canal. Politically, the most important provision of the bill was the authority it gave to the President to open negotiations with Great Britain for the abrogation of the Clayton-Bulwer treaty. Under this last provision a convention was signed in Washington Feb. 5, 1900, by Secretary Hay, representing the United States, and Lord Pauncefote, representing Great Britain, in which that provision of the Clayton-Bulwer treaty providing for a joint control of any canal across the isthmus was annulled. This convention was ratified by the United States Senate, Dec. 20, 1900, but it failed to meet the approval of the British government owing to amendments made by the United States Senate. On Nov. 18, 1901, a second convention was signed in Washington by Secretary Hay and Lord Pauncefote; was submitted to the United States Senate for ratification Dec. 4, and was ratified by a vote of 72 to 6 on the 16th following.

Nicaragua, Lake of, an extensive sheet of water in the republic of the same name; length, 90 miles N. W. to S. E.; greatest breadth, 40 miles; mean breadth, 30 miles; 110 feet above the Pacific from which it is separated by a strip of land 12 miles wide. The San Juan de Nicaragua river flows from its S. E. extremity into the Carib-

bean Sea, and at its N. W. extremity it is connected with the smaller Lake of Managua or Leon by the Penaloya river.

Nicene Creed, properly the Constantinopolitan-Nicene Creed, the summary of articles of belief formulated by the first council of Nice, and the "Filioque" clause, to which the Greeks objected, having been added at the First Council of Constantinople, A. D., 381, under Pope Damasus I.

Nicholas, one of the seven deacons mentioned in the Acts. He was a proselyte of Antioch; but afterward founded a sect called by his name, which permitted concubinage and the offering of meats to idols. By some, however, this Nicholas is said to have been a person other than Nicholas the deacon.

Nicholas I., Emperor of Russia, third son of the Emperor Paul I.; born near St. Petersburg, Russia, June 25, 1796 (old style). He ascended the throne in 1825. He made war with Persia in 1827–1828; joined in the treaty of London, which secured the independence of Greece; and made one of the allied powers who destroyed the Turkish fleet at Navarino in 1827. This affair led to war between Russia and Turkey, in which the latter was defeated, paid indemnity, and signed the treaty of peace at Adrianople in 1829. He suppressed the Polish insurrection which broke out in the following year with relentless severity. Early in 1852 began the Russian effort to take over the holy places and assume the protectorate of the Christians in Palestine. This led to the Crimean War, before the close of which Nicholas died from lung disease in St. Petersburg, Feb. 18, 1855 (old style).

Nicholas II., Emperor of Russia, son of Alexander III.; born in St. Petersburg, Russia, May 18, 1868. His mother was the Princess Dagmar, a daughter of the King of Denmark. During the famine of 1891 he was, at his own request, made president of the Committee of Succor, and worked hard in the organization of relief. As czarevitch he held several military commands in his own country — in the famous Preobrajensky regiment among others — and in England he had conferred on him in 1893 the Order of the Garter. He succeeded to the throne Nov. 1, 1894. He married the Princess Alix of Hesse-Darmstadt Nov. 26, 1894. His coronation took place with impressive and elaborate ceremonial at Moscow in May, 1896, and in August of the same year he commenced a tour which included visits to the Emperor of Austria and Germany, to the King of Denmark, to Queen Victoria, and to the President of France. The visit to Paris was taken advantage of to accentuate the friendly understanding or alliance, as it may now be called, between France and Russia. This alliance was definitely announced on the occasion of the visit of President Faure to St. Petersburg in 1897. Nicholas II. originated The Hague Peace Conference, and is understood to be strongly opposed to war. He has four daughters and no son, but is praying for one.

Nicholas I., the reigning Prince, or Hospodar of Montenegro; born Oct. 7 (Sept. 25), 1841. After an educational course at Trieste and Paris, he succeeded his uncle, who had been assassinated in August, 1860. In 1890 the 30th anniversary of his accession was celebrated, and during 1896 the bicentenary of the foundation of his dynasty. Queen Victoria gave him the Grand Cross of the Royal Victorian Order in March, 1897.

Nicholas, Edward Tatnall, an American naval officer; born in Augusta, Ga., March 1, 1823. During the Civil War he commanded the steamer "Winona," of the West Gulf blockading squadron, assisted at the bombardment of Forts Jackson and St. Philip, received the surrender of Fort St. Philip, April 28, 1862, participated in the attack on and passage of the Vicksburg batteries, June 28, 1862, and engaged the Confederate ram "Arkansas." He was promoted rear-admiral commanding the South Atlantic station, Feb. 25, 1878. He died in Pomfret, Conn., Oct. 12, 1886.

Nichols, George Ward, an American writer on art and music; born in Mt. Desert, Me., June 21, 1837. He was on the staff of General Sherman in the Civil War. He was for some years president of the Cincinnati College of Music. He died in Cincinnati, Ohio, Sept. 15, 1885.

Nichols, Henry E., an American naval officer; born in New York; en-

tered the United States Naval Academy, Oct. 1, 1861; and was promoted captain March 3, 1899. In 1897 he was given command of the "Bennington," and joined Admiral Dewey's fleet at Manila in July, 1898. On Jan. 26, 1899, he received command of the monitor "Monadnock," with which he did unusually effective work off Paranaque, Philippine Islands. During a severe bombardment, June 10, 1899, Captain Nichols was overcome by the heat and refusing to be relieved died while his vessel was shelling the insurgents.

Nicholson, James, an American naval officer; born in Chestertown, Md., in 1737. In 1776 he obtained the command of a ship-of-war called the "Defence," fitted out by the government of Maryland, and soon retook some vessels which the British had captured. In June, 1780, when in command of the frigate "Trumbull," of 32 guns, he fought a severe action with the "Wyatt," in which the "Trumbull" was completely disabled, but her antagonist, equally hurt, withdrew, without attempting to capture her. In 1801 he was appointed commissioner of loans for the State of New York. He died in New York city, Sept. 2, 1804.

Nicholson, James William Augustus, an American naval officer; born in Dedham, Mass. March 10, 1821; entered the navy in 1838 and was promoted commander in 1862. During the Civil War he was distinguished for gallant conduct and had charge of the monitor "Manhattan," which was with Farragut's fleet at the battle of Mobile Bay in 1864. He was promoted rear-admiral in 1881, and died in New York city, Oct. 28, 1887.

Nicias, a celebrated Grecian painter; contemporary with Apelles. His greatest picture was that which illustrated the passage in Homer's "Odyssey," where Ulysses invokes the shades of the departed. Ptolemy I., King of Egypt, offered Nicias 60 talents (about $75,000) for the picture; but the painter preferred to present it to his native city of Athens. One of his pictures was taken to Rome by Augustus. He is said to have painted some of the statues of Praxiteles. Lived about the 3d century B. C.

Nickel, a tetrad-metallic element, discovered by Cronstedt in 1751, in combination with arsenic, in the copper-colored mineral arsenide of nickel; called by the miners kupfernickel. Nickel is silver-white, malleable and ductile, and as infusible as iron. It is magnetic at ordinary temperatures and dissolves in dilute sulphuric, nitric, and hydrochloric acids. Nickel forms several alloys, the most important being known as German-silver. Also, in the United States, a popular name for a small coin, consisting of nickel, value five cents.

Nickel Plating, the art of coating copper, brass, or other metal with nickel.

Nickel Steel. Iron has a strong affinity for nickel, and alloys with it in all proportions very readily. It seems, however, from tests given by H. K. Landis, of the American Institute of Mining Engineers, in the "Scientific American," Jan. 9, 1897, that the maximum results are obtained with 8 or 16 per cent. of nickel.

Commander Eaton, U. S. N., says that the United States government first bought nickel to use in steel in 1890, that the first nickel steel plate was tested in 1893, in July, from which date all armor for United States vessels was made of nickel steel.

Outside of the application of this metal by the United States navy to armor, angles, rods, thin plates, engine shafting, hull plates, an experimental gun, the barrels of small arms, torpedo netting, etc., may be mentioned its application to bicycle frames and handle bars, steam boilers, and difficult steel castings.

Nicobar Islands, a group of islands in the Indian Ocean, forming with the Andamans, to the S. of which group they lie, an extension of the great island chain of which Java and Sumatra are the principal links; area 634 square miles; pop. aboriginal, 6,915. A penal colony for India exists at Nankauri on the island Kamorta.

Nicodemus, a member of the Jewish Sanhedrim, at first a Pharisee, and afterward a disciple of Jesus. He was early convinced that Christ came from God, but was not ready at once to rank himself among His followers.

At last, in the trying scene of the crucifixion, he avowed himself a believer, and came with Joseph of Arimathea to pay the last duties to the body of Christ, which they took down from the cross, embalmed, and laid in the sepulcher (John xix: 39).

Nicolas, Sir Nicholas Harris, an English antiquary; born March 10, 1799. He entered the navy, and had reached the rank of lieutenant by 1815, but at the close of the war left the service to study law, and was called to the bar at the Inner Temple in 1825. He devoted himself chiefly to genealogical and historical studies, and his work, "History of the Orders of Knighthood of the British Empire," remains a solid monument of learning. He died near Boulogne, France, Aug. 3. 1848.

Nicolay, John George, an American author; born in Essingen, Bavaria, Feb. 26, 1832; was brought to the United States in 1838 by his parents, and educated in the public schools. When 16 years old he became a printer in the office of the "Free Press," Pittsfield, Ill., where he rose to the post of publisher and editor. As proprietor of this paper he was recognized as a dominant political force in the State. During the famous campaign between Mr. Lincoln and Mr. Douglas, he took sides with the former, and when Mr. Lincoln was nominated for the presidency he appointed Mr. Nicolay his private secretary. Shortly before President Lincoln's asassination, he appointed Mr. Nicolay United States Consul at Paris, which post he held till 1869. In 1872 he was made marshal of the Supreme Court of the United States, and occupied that post for 15 years. As an author, Mr. Nicolay is best known from "Abraham Lincoln, a History" (1890), on which he collaborated with John Hay. He also contributed numerous magazine articles and sketches on President Lincoln. He died in Washington, D. C., Sept. 26, 1901.

Nicole, Francois Leon Etienne, a Haitian poet; born near Grande Rivere, in 1731. He was a mulatto. Educated in a Jesuit college, he went to Paris in 1750, where Voltaire introduced him to literary circles. Louis XV. granted him a pension in recognition of his talents. He died in Cap Francais, in 1773.

Nicoll, William Robertson, a Scotch clergyman and editor; born in Lumsden, Aberdeenshire, Scotland, Oct. 10, 1851. He took an M. A. at Aberdeen University; was minister of the Free Church at Kelso for eight years; on account of ill-health he resigned, in 1887 started the "British Weekly," one of the most successful religious papers in England, and later became English editor of the "Bookman."

Nicolls, Sir Richard, the first English governor of New York; born in Ampthill, England, in 1624. At 18 years of age he joined the royal army and was made captain of a troop of horse. On the triumph of Cromwell he fled to Holland, but at the restoration of Charles II., was appointed gentleman of the bed chamber to the Duke of York. In 1664 he was given charge of the fleet sent to reduce New Netherland. Owing to lack of preparation the Dutch could offer no resistance, and the English gained easy possession of the city, which Sir Richard renamed New York. In 1665 he established the offices of mayor, alderman, and sheriff. His rule was popular and successful. He returned to England in 1668, and lost his life serving under the Duke of York against De Ruyter, May 28, 1672.

Nicot, Jean, a French diplomatist; born in Nimes, France, in 1530. He was French ambassador at Lisbon. He introduced into France the tobacco-plant, having obtained its seeds from a Dutchman, who obtained them from Florida; it was called after him Nicotiana. He also compiled one of the first French dictionaries (1606). He died in Paris, France, May 5, 1600

Nicotine, an acrid poisonous alkaloid found in tobacco leaves to the extent of from 1 to 5 per cent.

Niebuhr, Barthold Georg, a German historian and philologist, son of Carstens Niebuhr; born in Copenhagen, Aug. 27, 1776. After holding situations in a government office at Copenhagen, he was invited to Berlin in 1805, and entered the service of the King of Prussia, whose confidence he long enjoyed, and who charged him with important diplomatic negotia-

tions, and made him privy-councillor. On the establishment of the University of Berlin, Niebuhr was chosen lecturer on Roman history; and the lectures then delivered formed the basis of the work by which his name is immortalized, "Roman History." Niebuhr was a great linguist and philologist, as well as historian, and published, besides his history, "Minor Historical and Philological Writings," etc. He died in Bonn, Prussia, Jan. 2, 1831.

Niehaus, Charles Henry, an American sculptor; born in Cincinnati, O., Jan. 24, 1855; studied art at the Royal Academy of Munich, Germany, where he won the first medal ever given to an American. He received a high award at the World's Columbian Exposition, made various celebrated statues, and was engaged on the Congressional Library, Washington; Trinity Church, New York; the appellate court house, New York; etc.; and was the sculptor of two large groups at the Pan-American Exposition in Buffalo in 1901.

Niger, Jobba, Quorra, Kovaree, or Kwara, a river of Central Africa, rising near the W. coast; length, estimated 2,600 miles; area of basin and that of tributaries 1,023,280 square miles. It rises in the region now known as the States of Samory, inland from Liberia and Sierra Leone. In its course it passes through much fertile valley land, while numerous towns and villages stand on its banks, and a considerable canoe commerce is prosecuted. The exploration of the Niger has been principally accomplished by English travelers, and Great Britain holds the protectorate of its border-lands as far as Timbukto. Above this city the control is in the hands of the French, who have steamers on the upper stream, and forts on its banks. Slaves were formerly nearly the only article of export from the Niger, but palm oil is now the principal staple, the delta outlets being known as Oil rivers. The Niger is one of the greatest rivers in the world. So strong is its current that driftwood from the vast estuary is frequently carried scores of miles out to sea.

Nigeria, a British protectorate in Africa, constituted Jan. 1, 1900; comprising Northern and Southern Nigeria. The two divisions of Nigeria are governed separately by high commissioners. The Niger Coast Protectorate was constituted in 1884, and the Royal Niger Company was chartered in 1886. Northern Nigeria now includes the former Fulah empire.

Night Hawk, a species of goatsucker, a bird universally known in the United States, 9½ inches in length and 23 in extent of wing. It is a bird of strong and vigorous flight, and its prey consists of beetles and other large insects. The other American species are the "chuck-will's widow" and the "whip-poor-will," both of which, like the night hawk, arrive in May, and leave the States in September.

Night Heron, cosmopolitan in its distribution, and including nine species. The common American night heron is found all over the United States, as a permanent resident in the S. portion only.

Nightingale, a European migratory species of birds. The famed song of the male is his love chant, and ceases when his mate has hatched her brood. The nightingale feeds chiefly on the larvæ of insects. The nest is

NIGHTINGALE.

built near the ground; the young are fledged in the month of June, and are ready to accompany the parents in their migration S. in the month of August.

Nightingale, Florence, an English philanthropist; born in Florence,

Italy, May 15, 1820. During the Crimean War (1854) the hospital accommodation was found to be very defective, and Miss Nightingale promptly volunteered to organize a select band of nurses at Scutari. The offer was accepted by the British War Office, and within a week Miss Nightingale was on her way to the East, where she rendered invaluable service to the sick and wounded by her incessant labors in nursing and hospital reform. She was consulted during the American Civil War and the Franco-German War. She published "Notes on Hospitals," "Notes on Nursing," "Notes on Lying-in Institutions."

Nightmare. In pathology, a disdisease technically called incubus, which comes during sleep, and is characterized by a sense of weight upon the chest, oppressed breathing, inability to move or even to speak, palpitation of the heart, etc., while the mind is troubled by a frightful dream. After a longer or shorter period of helplessness, the patient breaks through the state of lethargy, and awakes with a start. The causes are lying on the back, or in a constrained position, indigestible food in the stomach or pressure upon it, from flatulence with acid secretions, or other causes.

Nightshade, the name of certain plants possessing narcotic properties. Among them are some species of solanum, particularly the common nightshade, or black nightshade, an annual or biennial, with erect angular stem, ovate, sinuate-dentate leaves, drooping lateral umbels of white flowers, and globose black berries; a frequent weed in waste places in most parts of the world. Few plants are more widely diffused. The berries, though generally dreaded or suspected, may, it is said, be eaten, at least in moderate quantity, without danger.

Nihilism, in ordinary language, nothingness; the state or condition of being nothing, nihility. In history, a term used to designate the Russian Socialist movement, which began about 1870. In 1878 the struggle with the government commenced. At a congress held at Lipezk, shortly after Soloveiff's attempt on the life of Alexander II., the acquisition of political freedom was declared to be the first necessity. It was hoped to gain this by the formation of a legislative body, elected by the people, with guarantees for electoral independence, and liberty to agitate for reforms. This was demanded from Alexander III. shortly after the assassination of his predecessor as the price of cessation from violence. The Nihilist programme is an agrarian socialism based on communal property.

Nijni-Novgorod ("Lower Novgorod"), a famous commercial city of Russia, and capital of the province of the same name; at the confluence of the Oka with the Volga; 274 miles E. of Moscow. The great fair brings buyers and sellers from all climes between Germany and China. For the convenience of those frequenting the fairs, there is an enormous market hall, and 60 blocks of buildings for booths, containing more than 2,500 apartments separated by fireproof walls. There are three annual fairs. The third, beginning July 15 and continuing into September, is still the greatest in the world. During the fair, the normal population is very largely increased. The value of goods sold at one of these fairs often exceeds $90,000,000. At these fairs all foreign goods are supplied in smaller quantities, those of Russian production showing an increase. Pop. 95,124.

Nike, in Greek mythology, the goddess of victory.

Nikisch, Arthur, a Hungarian orchestral conductor; born in Azent, Miklos, Lichtenstein, Hungary, in 1855; disclosed extraordinary musical talent at an early age. In 1878 he went with Neumann to Leipsic, and was installed as assistant conductor in the Old Opera house. He remained there a year, drilling the chorus and soloists and conducting the smaller operas and operettas, and then went to the New Opera house as chief conductor. In 1889 he succeeded Herr Gericke as conductor of the Boston Symphony Orchestra, and in 1893 he resigned and returned to Hungary.

Nile, called by the Egyptians Hapi Mu, and by the Hebrews Sihor, the river of N. E. Africa, formed by the union of the Bahr-el-Abiad and the Bahr-el-Azrek. The total length of the Nile from its exit from the lake to the sea, is about 3,000 miles, meas-

ured along its course, or 2,200 miles in direct distance.

A marked feature peculiar to the great river of Egypt is that from its junction with the Atbara to its mouth, a distance of upward of 1,500 miles, it receives no affluent whatever, and yet it is able to contend with the burning sun, and scarcely less burning sands of Nubia. With the ancient Egyptians the river was held sacred; the god Nilus was one of the lesser divinities. Its annual overflow is one of the greatest marvels in the physical geography of the globe, for it has risen to within a few hours of the same time, and to within a few inches of the same height, year after year, for unknown ages. The question of the source of the Nile is at once the oldest and the most recent of geography. The Nile reservoir, for which the great dams at Assouan and Assoiut have been constructed, will enable wide tracts of land to bear two crops a year instead of one, will bring waste districts into tillage, and will greatly increase the area of sugar cultivation. The reservoir will supply 1,000,000,000 cubic meters of water annually. The dam at Assouan is 1¼ miles long. It is pierced by 180 openings, 23 feet side, and 7 feet wide, which have steel sluice gates.

Niles, John Milton, an American statesman; born in Windsor, Conn., Aug. 20, 1787; he founded the Hartford "Times" in 1817; was twice United States Senator; and in 1840 became Postmaster-General. He died May 31, 1856.

Nilsson, Christine, a Swedish operatic singer; born in Wexio, Sweden, Aug. 3, 1843; was educated in Sweden and France; made her debut at Paris in "La Traviata" in 1864; and in London, where she appeared in 1867, soon took rank as one of the foremost soprano singers. Marguerite is one of her best-known parts. She repeatedly visited the United States. She married (1872) M. Rouzand (who died in 1882), and in 1887 Count de Miranda.

Nimbus, a word applied, especially in sacred art, to a halo or glory surrounding the head in representations of divine or sacred personages.

Nimrod, grandson of Ham, who is supposed by some to have been the founder of Babylon, where he reigned while Asshur ruled in Assyria. He is also supposed to be the first king, and the first conqueror. In the Scriptures, he is called "a mighty hunter before the Lord."

Nine Pins, a game with nine pins or pieces of wood set on end, at which a bowl is rolled for throwing them down.

Ninety-six, Fort, a defensive work in Abbeville co., S. C.; about 6 miles from the Soluda river; so-called on account of being 96 miles from the frontier fort of Prince George. It was the scene of many severe conflicts during the Revolutionary War.

Nineveh, or **Ninus,** an ancient and famous city; capital of the great Assyrian empire; said in Scripture to have been founded by Ninus or Nimrod. It was situated on the E. bank of the Tigris, opposite to the present Mosul. According to the accounts of the classic writers the city was of vast extent, 480 stadia, or more than 60 miles in circumference. Its walls were 100 feet high, broad enough for three chariots, and furnished with 1,500 towers, each 200 feet in height. After having been for many centuries the seat of empire, it was taken, after a siege of several years, and destroyed by the united armies of the Medes, under Cyaxares, and the Babylonians, under Nabopolassar, about 625 B. C. When Herodotus, not quite 200 years afterward, and Xenophon visited the spot there remained only ruins. The site is thought to be the modern Nimrud.

Ning-po, a treaty-port of China; province of Che-keang; stands in a fertile plain; 16 miles from the mouth of the Takia (Ning-po) river, and about 100 miles S. of Shanghai. It is surrounded by a wall 25 feet high and 16 feet thick, and contains numerous temples, colleges, etc. The people, 250,000 in number, make sedge hats and mats, grow cotton, catch cuttle fish, and carry on an active trade, especially in the export of green tea. The imports are chiefly opium, cotton and woolen goods, tin and iron, medicines (in transit), dried "lungngans," kerosene oil, indigo, sugar, and tobacco, and the exports green tea, cuttle fish, sedge hats and mats, silk goods, and raw cotton. Apart from junks,

some 550 vessels, of 382,800 tons, enter the port every year.

Niobe, in Greek mythology, the daughter of Tantalus and wife of Amphion, King of Thebes, to whom she bore six sons and six daughters. According to the legend her children were slain by Apollo and Artemis, and she, plunged in grief, was changed into stone.

Nipigon, a lake in the province of Ontario, Canada; 30 miles N. W. of Lake Superior, with which it is connected by the Nipigon river; is about 70 miles long, but its deeply indented coast line measures 580 miles; greatest depth 540 feet. The lake is studded with hundreds of islands.

Nipissing, a lake in the province of Ontario, Canada; N. E. of Lake Huron, into which (Georgian Bay) it drains through French river (55 miles); about 50 by 28 miles.

Nisan, a month of the Jewish calendar, the first month of the sacred year and seventh of the civil year, answering nearly to our March. It was originally called Abib, but began to be called Nisan after the captivity.

Niter, or Nitre, an orthorhombic mineral occurring in crusts, silky fibers, acicular crystals, or diffused through certain soils.

Nitrate, a salt of nitric acid.

Nitrate of Silver, lunar caustic; prepared by dissolving silver in nitric acid.

Nitrate of Sodium, Chile saltpeter. Occurs abundantly as a natural product in Chile, in beds several feet thick and many miles in extent.

Nitric Acid, the most important of the five compounds formed by oxygen with nitrogen. When pure it is a colorless liquid, very strong and disagreeable to the smell, and so acrid that it cannot be safely tasted without being much diluted. It is known in the arts as "aqua fortis," and is commonly obtained by distilling niter (potassium nitrate) or Chile saltpeter (sodium nitrate) with strong sulphuric acid. Nitric acid contains about 76 per cent. of oxygen, a great part of which it readily gives up to other substances, acting thus as a powerful oxidizer. When nitrates are heated with combustible bodies an explosion is generally produced. Nitric acid is employed in etching on steel or copper; as a solvent of tin to form with that metal a mordant for some of the finest dyes; in metallurgy and assaying; also in medicine, in a diluted state, and also in form of vapor to destroy contagion.

Nitrogen, a pentad non-metallic element forming four-fifths of the atmosphere and entering into a great variety of combinations; symbol N. at. wt., 14. It may be obtained by burning phosphorus under an inverted bell jar placed over water. The residual gas, when freed from phosphoric pentoxide, is nitrogen. It is destitute of color, taste, and odor, and is incapable of sustaining combustion or animal existence, though containing no positively poisonous properties. It is best characterized by its negative properties. Nitrogen acts in the atmosphere chiefly as a diluent to moderate the activity of the oxygen. It has recently been liquefied with the aid of cold and a high pressure. It combines with oxygen, though indirectly, forming well-known compounds.

Nitroglycerin, a violently explosive substance, easily prepared by dissolving glycerin in a mixture of equal measures of the strongest nitric and sulphuric acids, previously cooled, and pouring the solution in a thin stream into a large volume of water, when the nitroglycerin is precipitated as a colorless heavy oil.

Niven, William, an American mineralogist; born in Bellskill, Scotland, Oct. 6, 1850; was educated in the common schools of Scotland, and came to the United States in 1879. In 1889 he discovered new minerals, yttrialite, thorogummite, in Slano co., Tex.; and in 1891 the new mineral aguilarite at Suanajuato, Mexico. In the latter year he also discovered the remains of a prehistoric city or nation, hundreds of square miles in extent, in the state of Guerrero, Mexico.

Nixon, John, an American military officer; born in Philadelphia, Pa., in 1733. He was early prominent in opposition to the taxation demands of England, and in 1774 was made a member of the first Committee of Correspondence. He publicly proclaimed for the first time in Philadelphia, the Declaration of Independence; served with distinction through the Revolutionary War; was a member of the

navy board and director of the provision supply; and in 1783 was one of the organizers of the Bank of North America. He died in Philadelphia, Dec. 31, 1808.

Nixon, John, an American military officer; born in Framingham, Mass., March 4, 1725; was at the siege of Louisburg in 1745, also fought at Ticonderoga and the battle of Lake George, and distinguished himself at the battles of Lexington and Bunker Hill, where he commanded a regiment. In 1776, he was promoted Brigadier-General, and in 1777 served under General Gates. He retired from the army in 1780, and died in Middlebury, Vt., March 24, 1815.

Nixon, Lewis, an American shipbuilder; born in Leesburg, Va., April 7, 1861. He graduated at the United States Naval Academy in 1882; was sent to the British Royal Naval College by the Navy Department; and was transferred to the construction corps of the navy in 1884. In 1890 he designed the battleships "Oregon," "Indiana," and "Massachusetts." He resigned from the navy to become superintendent of Cramps' shipyard, Philadelphia, Pa., and in 1895 he founded the Crescent shipyard, in Elizabeth, N. J., where in six years he built over 100 vessels, among them the submarine torpedo boat "Holland," the monitor "Florida," and the cruiser "Chattanooga." He has been prominent in New York Democratic politics.

Noah, the tenth male in descent from Adam, in the line of Seth; was the son of Lamech and the grandson of Methuselah. According to the Scriptural story he received the divine command to build an ark in which he and his family escaped the Deluge (Gen. v: 29; ix: 29).

Noah, Mordecai Manuel, an American journalist; born in Philadelphia, Pa., July 14, 1785. During his journalistic career in New York he was connected with seven newspapers. He made an unsuccessful attempt to found a Jewish colony on Grand Island, in the Niagara river. He died in New York, May 22, 1851.

Noailles, a French ducal family which dates from the 11th century, and played an important part in history from the reign of Louis XIV. to the Revolution. A grandson of the third duke, Louis Marie (1756–1804), served in the American Revolutionary War under his brother-in-law Lafayette, embraced for a while the French Revolution, and defended San Domingo against the British.

Nobel, Alfred Bernhard, a Swedish chemist and physicist; born in Stockholm, Sweden, Oct. 21, 1833. In 1863 Alfred took out a patent for the manufacture of an explosive composed of nitroglycerin and ordinary blasting powder, and in 1864 a second patent. In 1867 he invented dynamite; in 1876 gelatinous nitroglycerin; in 1889 ballistite, which led the way to the invention of smokeless powder. Alfred invented also artificial guttapercha; manufactured cannon, and, with his grother, Louis, developed the petroleum deposits at Baku, in the Caucasus. He lived for a long time in Paris, but had a villa and laboratory at San Remo, Italy, where he died Dec. 10, 1896.

Nobel left his fortune of $9,200,000 to found a prize fund, the annual interest of which was to be divided into five equal parts (each amounting to about $40,000, the sum available), to be distributed every year to the persons who, during the year, had done best in (1) physical science; (2) chemistry; (3) physiology or medicine; (4) idealistic literature; and (5) the advancement of universal peace.

Nobert's Test-plates, finely-ruled glass plates, so named from Nobert, a German optician, used for testing the power of microscopes. The rulings are executed on the under surface of a piece of exceedingly thin glass by means of a diamond point. Some of these ruled plates have the almost incredible number of 225,187 spaces to the inch.

Nobility, that distinction of rank in Old World society which raises a man above the condition of the mass of the people.

In the United States the National Constitution declares (Art. I., Sec. 14) "No title of nobility shall be granted by the United States; and no person holding any office of profit or trust under them shall, without the consent of Congress, accept of any

present, emolument, office, or title, of any kind whatever, from any king, prince, or foreign State." Congress sparingly gives its consent for a person in the service of the government to accept a decoration or other mark of honor from another government. Private citizens are under no constitutional restrictions.

Noble, Annette Lucile, an American author; born in Albion, Orleans co., N. Y., July 12, 1844; became a frequent contributor to magazines, and has written several stories.

Noble, John Willock, an American lawyer; born in Lancaster, O., Oct. 26, 1831; was graduated at Yale University in 1851; enlisted in the 3d Iowa Cavalry in 1861; was promoted colonel and brevetted Brigadier-General of volunteers; was United States attorney for Missouri, at St. Louis, in 1867–1870; and Secretary of the Interior under President Harrison, in 1889–1893.

Noble, Louis Legrand, an American poet; born in Lisbon, N. Y., Sept. 26, 1813. He died in Ionia, Mich, Feb. 6, 1882.

Noble, Lucretia Gray, an American novelist; born in Lowell, Mass. At an early age she removed to Wilbraham, Mass.

Noctiluca ("night light"), a phosphorescent marine infusorian, extremely abundant round American and other coasts, one of the chief causes of the "phosphorescence" of the waves. It is a spherical animal, its substance is remarkably spongy, and the phosphorescence is said by Allman to have its seat just underneath the rind.

Nocturne, in painting, a night-piece; a painting exhibiting some of the characteristic effects of night light. In music, a composition in which the emotions, particularly those of love and tenderness, are developed. The nocturne has become a favorite style of composition with modern composers of music for the pianoforte.

Noddy, a genus of birds differing from terns in having the bill slightly angular, thus exhibiting an approach to gulls, and the tail not forked, but somewhat wedge-shaped. Altogether seven species are enumerated, widely distributed throughout the tropics and in the temperate zones. It is a familiar bird in the Atlantic and Pacific Oceans, not infrequently alighting on vessels and suffering itself to be taken by the hand. It is about 15 or 16 inches long, from the tip of the bill to the end of the tail, the general color being a brownish black.

Nogaret, Stanislas Henry Lucien de, a French colonist; born in Marseilles, France, in 1682; was educated for the bar, but entered the army and served in Canada for several years, and in 1716 was appointed commander of Fort Rosalie, in Louisiana. In 1729 the Natchez Indians burned and sacked the fort, but Nogaret escaped, and, returning a few months later with a large force, rebuilt the stronghold. He contributed much to the welfare of the colony that grew up around the fort, and founded others in the Choctaw territory. In 1735 he fell heir to the family estate, and returning to France, became a director of the Louisiana Company. He published "A Report of the Colonies Founded in the Valley of the Mississippi," by Chevalier Le Moyne de Bienville; followed by a "History of the Wars with the Natchez Indians." He died in Paris, in 1759.

Nolle Prosequi, a term used where a plaintiff or a prosecuting attorney for the public, discontinues a suit, either wholly or as to some count, or as to some defendants.

Nomad, a roaming or wandering shepherd; one who leads a wandering life, and subsists by tending herds of cattle, which graze on herbage of spontaneous growth. In history, nomads or nomades, are tribes of men without fixed habitation. The nomades of ancient times were generally tribes devoted to pastoral pursuits; for the Greeks and Romans knew of no races subsisting wholly by the chase. The vast regions of Mongolia are inhabited by nations which still retain their wandering habits.

No Man's Land, a name applied to outlying districts in various countries, especially to a strip ceded by Texas to the United States in 1850, for many years without any government, now constituting Beaver co., Okl.; to a small island 3 miles S. W. of Martha's Vineyard, Mass.; and to a strip of land bordering on Pennsylvania, Dela-

ware, and Maryland, still in dispute between those States because of the displacement of early boundary stones.

Nomenclature, a name, title, designation; vocabulary, dictionary, or glossary. In science, the names taken collectively of the objects of study in any branch of science. Sometimes it includes, but generally is distinguished from, terminology.

Non Compos Mentis ("not of sound mind"), an expression used of a person who is not of sound understanding, and therefore not legally responsible for his acts.

Nonconformists, in English history, those who declined to conform their worship to that by law established. They were of two kinds: First, those who, being religious, worshiped nowhere; second, those who attended the services of some other religious denomination than the Established Church. It was more frequently used of the latter class. The name was first applied to those who declined to conform to the enactment of the Act of Uniformity of Edward VI., passed in 1549. It was revived and applied to the 2,000 clergymen, who had to surrender their livings on account of their inability to conform to the more celebrated Act of Uniformity of Charles II., first enforced on Aug. 24, 1662. Etymologically viewed, a Dissenter and Nonconformist somewhat differ. The former word denotes that he feels differently from Churchmen, that his sympathies go in a different direction; the latter word refers, not to his feelings, but to his action with respect to public worship. The laws formerly existing required him to conform to that of the Established Church by attending the services and partaking of the Communion. The two words, dissenter and non-conformist, as generally referring to the same individual, became interchangeable.

Nonsense, Fort, the popular name of a defensive work on the hills overlooking Morristown, N. J., projected by Washington to keep his discouraged and famished army from revolting during the winter of 1779–1780. The soldiers worked on its construction till relief supplies were received. The Washington Association of New Jersey erected a memorial stone on the site of the earthworks in 1888.

Nonsuit, in law, the stoppage of a suit during trial. This is done by the judge when, in his opinion, the plaintiff fails to make out a legal cause of action, or to support his pleadings by any evidence.

Nootka, an island of Canada on the W. coast of Vancouver Island, at the entrance of Nootka Sound, an inlet running about 10 miles inland.

Nootka Dog, a large variety of dog domesticated by the Indians of Nootka Sound, chiefly remarkable for its long wool-like hair, which, when shorn off, holds together like a fleece, and is made into garments.

Nordau, Max Simon, a German author; born in Pest, Hungary, July 29, 1849; followed various avocations, studying and practising medicine, traveling and writing for the press till 1880, when he went to Paris, and has since devoted himself to literature. He wrote a number of books, of which the best known, perhaps, in the United States is "Degeneration" (1893). He is a conspicuous figure in the Zionist movement.

Nordenfeldt, Phorsten, a Swedish engineer; born in 1844; invented the machine gun that bears his name; also several forms of torpedoes, and a submarine torpedo boat; became chamberlain to the King of Sweden. He was given a reception by the American Society of Swedish Civil Engineers in Brooklyn, N. Y., April 22, 1899.

Nordenskjold, Baron Nils Adolf Erik, a Swedish Arctic explorer; born in Helsingfors, Finland, Nov. 18, 1832. After two preliminary trips to the mouth of the Yenisei, by which he proved the navigability of the Kara Sea, he successfully accomplished (June, 1878–September, 1879), in the celebrated "Vega," the navigation of the Northeast Passage, from the Atlantic to the Pacific along the N. coast of Asia. On his return he was made a baron of Sweden (1880). To Greenland, too, he made two expeditions; members of his party on the second occasion (1883) reached a point 140 miles distant from the E. coast, but without finding the ice-free interior Baron Nordenskjold believed to exist. Three years later he published a book on the icy interior of Green-

land. He died in Stockholm, Sweden, Aug. 12, 1901.

Nordhoff, Charles, an American author; born in Westphalia, Prussia, Aug. 31, 1830; was brought to the United States by his parents in 1835; and educated at Woodward College, Cincinnati, O. He served in the United States navy, making a tour around the world; and later was employed in whaling and mackerel fishing. He was in a New York publishing house in 1857–1861; on the New York "Evening Post" in 1861–1871; and on the New York "Herald" since 1874. He wrote a number of valuable books, including an excellent manual on the American system of government. He died in California, July 14, 1901.

Nordica, Lillian. See Lillian Norton.

Norfolk Island, an island in the W. Pacific; about half-way between New Zealand and New Caledonia; 400 miles N. N. W. of the former. The coasts are high and steep, and the surface generally uneven, rising in Mount Pitt to 1,050 feet. The island is 6 miles long, and has an area of 13½ square miles. The soil is fertile and fell watered, and the climate healthy. The people govern themselves, under the superintendence of the government of New South Wales; they fish, farm, and supply provisions to passing vessels.

Normal, according to an established law, rule, or principle; relating to rudiments or elements; teaching rudiments or first principles; instructing in the art of teaching; as, a normal school.

In geometry, a perpendicular to a curve at some particular point, at which point the normal is also perpendicular to a tangent.

Normal School, a school for the education of teachers. They originated in Germany, and were for a long period confined to that country. In the 19th century they rapidly increased in numbers, and were greatly improved in their internal organization. The course of instruction generally extends to three or four years, and in most parts of the United States the great majority of the teachers are graduates of the normal school. The first in the United States was opened at Lexington, July 3, 1839; and now most of the principal cities as well as the States have their normal schools.

Norman, Henry, an English author; born in Leicester, England, Sept. 19, 1858; studied in France; was graduated at Harvard in 1881, and continued his studies at Leipsic University in 1881–1883. He inaugurated, in 1882, the agitation for the preservation of Niagara Falls, resulting in the acquisition of the surrounding territory by the United States and Canadian governments. He was for several years on the staff of "The Pall Mall Gazette," and London "Chronicle"; and connected with the New York "Times" and Chicago "Tribune." He was elected to Parliament in 1900. He traveled extensively and is the author of "The Preservation of Niagara Falls"; "The Real Japan," etc.

Norman Architecture, a style of architecture in the Middle Ages. The character of the exterior of buildings in the Norman style may be described as heavy and massive. The windows were generally small. Blind, narrow, arcades often occur in the facades and towers, sometimes interlacing, and sometimes not so, in several ranges, one above the other. The Norman style is of frequent occurrence in the case of the castles of the feudal lords.

Norman Conquest, in English history, the successful attempt made by William of Normandy in 1066 to secure the English crown from his rival Harold, son of Earl Godwin. It was no real conquest of the land and people by an alien race, but rather resembled in its chief characteristics the accession of William of Orange to the throne in 1688.

Normand, Henrietta Rae, an English painter; born in London, Dec. 30, 1859; married Ernest Normand, the painter, 1884. Medallist at Paris and Chicago Universal Exhibitions. She began to study art at the age of 13; exhibited her first picture at the Royal Academy in 1880; has been represented at the R. A. each succeeding year by important pictures.

Normandy, an ancient province of France, bordering on the English Channel, now divided into the departments of Seine-Inferieure, Eure, Orne, Calvados, and Manche; anciently comprised a portion of the kingdom of

Neustria, and was ceded to Rollo, Rolf, or Raoul, by Charles III., in 911. William I., Duke of Normandy, invaded England in 1066, and established a Norman dynasty, thereby uniting Normandy with the latter country. Philip Augustus conquered it in 1204, the French holding it till 1417, when it was recovered by the English, who held it till 1450, when it was finally wrested from them by Charles VII.

Norman French, the language spoken by the Normans at the time of the Conquest. It continued to be the legal language of England till the reign of Edward III.

Normans (literally "north-men"), the descendants of the Northmen who established themselves in Northern France, hence called Normandy. Besides the important place occupied in history by the Normans in Normandy and England, bands of Normans established themselves in S. Italy and Sicily, and Norman princes ruled there from the middle of the 11th till the end of the 12th century.

Noronha, Fernando, a group of small islands belonging to Brazil; in the S. Atlantic; about 200 miles E. N. E. of Cape San Roque. The group, which comprises a main island, 6½ miles long and about 2 broad, and several smaller islets, is of volcanic character. The islands are fertile, and maize, sugar, sweet potatoes, casavas, melons, and bananas are raised. The low hills and valleys of the main island are thickly wooded. The main island has been made a penal settlement.

Norse, the language of Scandinavia. Old Norse is represented by the classical Icelandic, and still with wonderful purity by modern Icelandic. The literature includes the early literature of the people of Norway, Sweden, and Iceland.

Norte, Rio Grande del, a river of Mexico, rising in the Rocky Mountains and emptying into the Gulf of Mexico; length about 2,000 miles. Its mouth is 1,200 feet wide, but is barred so as to afford entrance only to boats.

North, one of the four cardinal points of the compass. The N. is the direction of the true meridian from the equator to the North Pole. Magnetic N. is the direction of the magnetic meridian toward the N. magnetic pole.

North, Frederick, 8th Lord North and 2d Earl of Guilford, an English statesman; born April 13, 1732. He was educated at Eton and Oxford. When only 22 he entered the House of Commons; became a Lord of the Treasury in 1759; Chancellor of the Exchequer and leader of the House of Commons in 1767; and prime minister in 1770. He was largely responsible for the measures that brought about the loss of the American colonies. In 1778 he renounced the right of taxing the colonies, already seeing that the war was hopeless, and in 1782 he resigned. He died Aug. 5, 1792.

North, Simeon, an American educator; born in Berlin, Conn., Sept. 7, 1802. He was president of Hamilton College, 1839–1857. His works include: "The American System of Collegiate Education"; "The Weapons in Christian Warfare"; etc. He died in Clinton, N. Y., Feb. 12, 1884.

North Britain, a name often given to Scotland, it forming the extreme N. part of the island of Britain.

North Cape, the extreme N. point in Europe in lat. 71° 10′ N. It is not, however, on the continent, but on the island of Magero.

North Carolina, a State in the South Atlantic Division of the North American Union; bounded by Virginia, South Carolina, Tennessee and the Atlantic Ocean; one of the original 13 States; number of counties, 97; capital, Raleigh; area, 48,580 square miles; pop. (1890) 1,617,947; (1900) 1,893,810.

The E. and larger portion of the State is an undulating country descending toward the low and sandy coast. The W. part is mountainous, being crossed by two ranges of the Appalachian system, one forming the Tennessee boundary. The coast line has a length of 400 miles and consists of a range of low islands and sand bars, locally known as "banks," separated from the mainland by shallow sounds. The largest of the latter are Albemarle and Pamlico Sounds. From the "banks" in many places, project promontories, dangerous because of their shoals, Cape Hatteras, Cape Lookout, and Cape Fear being the chief ones. Along the coast are numerous swamps and peat bogs. The great Dismal Swamp of Virginia pro-

jects into the State, and there is a large swamp between the Albemarle and Pamlico Sounds.

In 1900 the principal mineral productions were coal, 17,734 short tons, valued at $23,440; gold, 1,379 fine ounces, valued at $28,500; silver, 11,200 fine ounces, valued at $6,944; sheet mica, 107,255 pounds; scrap mica, 4,450 short tons; mineral water, 125,295 gallons, valued at $29,799; talc and soapstone, 4,522 short tons, valued at $75,308; granite, valued at $257,962; sandstone, valued at $27,210; and clay products, valued at $815,975. Other important mineral resources are phosphate rock, alum, graphite, bismuth, kaolin, whetstone, sapphires, amethysts, emeralds, corundum, garnet and tourmaline.

The swamp land when drained, and the river bottoms have exceedingly fertile soil and yield enormous crops, especially of rice and cotton. The N. counties known as the Bright Tobacco Belt, which extends from the Piedmont almost to the coast, produces a large percentage of the yellow tobacco of the United States. The mountainous sections are valuable as grazing lands and well adapted to stock raising and dairy farming. The peanut crop of the State exceeds 100,111 bushels annually. The principal farm crops in 1900 were corn, wheat, oats, rye, buckwheat, potatoes, and hay.

In 1900 there were reported 7,226 manufacturing establishments employing $76,503,894 in capital and 70,570 persons; paying $13,868,430 for wages and $53,072,338 for materials; and having an annual output valued at $1,835,104,431. The chief manufactures included cotton goods, fertilizers, flour, furniture, leather, lumber, oil, and tobacco.

At the end of the school year, 1899–1900, the children of school age numbered 669,530; the enrollment in public schools, 400,452. There were 6,111 buildings used for public school purposes, and 7,387 public school teachers. Among the colleges are the University of North Carolina at Chapel Hill, Davidson College, and others.

The governor is elected for a term of four years and receives a salary of $3,000 per annum. Legislative sessions are held biennially and are limited in length to 60 days each. The Legislature has 50 members in the Senate and 120 in the House. There are 9 representatives in Congress.

North Carolina was first partially colonized by a body of English under Raleigh in 1585, but no permanent settlement was made till 1663, when Charles II. made a grant of the territory to eight English gentlemen. The National Constitution was adopted in 1789. The State joined the Southern Confederacy May 20, 1861, and furnished some of the best troops in the Confederate army, having 125,000 in service and losing 40,000 by wounds and disease. The present constitution was amended in 1875, and again in August, 1900, when the suffrage was amended so that after Jan. 1, 1908, no one who is unable to read and write can vote.

North Carolina, University of, a coeducational non-sectarian institution in Chapel Hill, N. C., founded in 1795.

North Dakota, a State in the North Central division of the North American Union; bounded by Manitoba, Northwest Territory, Minnesota, South Dakota, and Montana; admitted to the Union, Nov. 2, 1889; number of counties, 39; capital, Bismarck; area, 70,195 square miles; pop. (1890) 182,719; (1900) 319,146.

The surface of the State is chiefly undulating prairie with occasional low hills. The principal river is the Missouri, navigable throughout the State.

The soil, especially in the Red river district, is exceedingly fertile, the clay subsoil being nearly as fertile as the topsoil, and both free from stones. The principal forest trees are oak, birch, aspen, cottonwood, ash, willow, box-elder, plum, and bull-cherry. The principal farm crops are wheat, oats, corn, barley, potatoes, and hay. In 1901 there were 38,808 farms in the State, and 6,150 ranches.

In 1900 there were reported by the United States census, 1,130 manufacturing establishments, employing $5,396,490 capital and 2,398 persons, paying $1,222,472 wages, and $5,615,793 for raw materials; and having an annual output valued at $9,183,114. The greater part of the manufacturing is carried on in Fargo and Grand Forks. The principal articles of manufacture include flour and grist (70 mills), printing and publishing, ma-

sonry, saddlery and harness, packed meat, tobacco and cigars, railroad cars, carriages, and wagons, millinery, machine shop products, timber and lumber, furniture, fire brick, and hydraulic cement.

The governor is elected for a term of two years and receives a salary of $3,000 per annum. Legislative sessions are held biennially and are limited in length to 60 days each. The legislature has 103 members. There is one representative in Congress. The financial condition of the State is excellent.

The first permanent white settlement was made in 1780 by a party of French Canadians, near Pembina. Fur trading posts were established early in the 19th century and Lewis and Clark spent the winter of 1804–1805 in the present town of Mandan. In 1810 Lord Selkirk built a fort at Pembina, supposing it to be British soil. The region was first opened to settlement by a treaty with the Dakota Indians in 1851. In 1861 the Territory of Dakota was organized with Yankton as capital. It was the scene of hard-fought Indian warfare. Dakota was divided into North and South Dakota, and these admitted to the Union as States in 1889. In November of that year the State government was formed and the first legislature convened.

North Dakota, University of, a coeducational, non-sectarian institution in Grand Forks, N. D., founded in 1883.

Northeast Passage, a passage for ships along the N. coasts of Europe and Asia to the Pacific Ocean, formerly supposed likely to be of commercial value. The first to make the complete voyage by this passage was the Swedish explorer Nordenskjold, after it had been from time to time attempted in vain for upward of three centuries.

Northeast Territory, a territory of Canada on the E. of Hudson Bay, and extending S. to Quebec province. It forms part of the peninsula of Labrador, and is little known. It is intersected by Rupert's river, East Main river, Big river, Great and Little Whale river, etc., all flowing W. to Hudson Bay, and contains numerous lakes. Furs are the only commodity as yet obtained from it.

Northern Drift, in geology, a name formerly given to boulder-clay of the Pleistocene period, when its materials were supposed to have been brought by polar currents from the N.

Northmen, a name applied to the ancient inhabitants of Scandinavia, or Norway, Sweden, and Denmark, but more generally restricted to those sea-rovers called Danes by the Saxons, who sailed on piratical expeditions to all parts of the European seas, made their first appearance on the coast of England in 787, and from the year 832 repeated their invasion almost every year, till they became masters of all the country under their King Canute, and reigned in England during the next 50 years, down to 1042, when the Saxon dynasty was restored in the person of Edward the Confessor.

In 885, they laid siege to Paris, but were at length bought off by Charles the Fat. Rollo, one of the most renowned of the Norman chieftains, after ravaging Friesland and the countries watered by the Scheldt, accepted the hand of a daughter of Charles the Simple, and received with her, under the tie of vassalage, possession of all the land in the valley of the Seine, from the Epte and Eure to the sea, which then went by the name of Normandy. They rapidly adopted the more civilized form of life that prevailed in the Frankish kingdom — its religion, language, and manners — but inspired everything they borrowed with their own vitality. Their conquest of England, in 1066, gave that country an energetic race of kings and nobles, on the whole well fitted to rule a brave, sturdy, but somewhat torpid people like the Anglo-Saxons.

North Polar Expeditions, expeditions of discovery in the Arctic regions. In 1517 Sebastian Cabot was commissioned by Henry VIII. to search for a N. W. passage round America to India; and from that time onward the discovery of such a passage became a favorite project with explorers.

Recent expeditions have generally been with the object of getting as near the pole as possible. Of later expeditions may be mentioned that of the unfortunate and ill-advised "Jeannette" (1879), sent out under the command of Lieutenant De Long, to explore the Arctic Sea through Bering Strait;

those of Mr. Leigh Smith in 1880 and 1881; in the latter of which he lost his vessel; and that of Sir C. Young for the relief of the former. An expedition sent out by the United States under Lieutenant Greely (1881–1884) established a new record in the approach to the pole, reaching 83° 24′ N., 40° 46′ W., but suffered greatly from famine, losing 19 out of 26 men. In 1888 S. Greenland was crossed sea to sea by Dr. Nansen. In 1892 Lieutenant Peary traced the Greenland coast to lat. 82° N. In 1895 Nansen reached the farthest point N. attained up to that time, 86° 14′, or only 260 statute miles from the pole; but in 1899–1900 the Duke of Abruzzi's expedition reached 86° 33′. Lieutenant Peary, U. S. N., as stated elsewhere, has since made even greater progress toward a solution of the polar mystery.

Northrop, Birdsey Grant, an American educator; born in Kent, Conn., July 18, 1817; was graduated at Yale in 1841; and at its divinity school in 1845. He introduced the observance of Arbor Day in schools, and was known as the "Father of Village Improvement Societies." In 1863 he was a member of the Board of Visitors to the United States Military Academy; in 1886 president of the National Association of School Superintendents; and in 1873 president of the National Educational Society. He died in Clinton, Conn., April 27, 1898.

Northrop, Cyrus, an American educator; born in Ridgefield, Conn., Sept. 30, 1834; was graduated at Yale in 1857; and at its law school two years later. He was professor of Rhetoric and English Literature at Yale in 1863–1864; leaving there to become president of the University of Minnesota.

Northrop, Harry Pinckney, an American clergyman; born in Charleston, S. C., May 5, 1842. He was consecrated vicar-apostolic of North Carolina, and titular bishop of Rosalia Jan. 8, 1882. In 1883 he was transferred to the see of Charleston, S. C.

North Sea, or **German Ocean,** that portion of the Atlantic Ocean extending from the Straits of Dover to the Shetland Islands, bounded on the E. by Norway and Denmark; on the S. by Hanover, the Netherlands, Belgium, and France, and on the W. by the British Islands; length 700 miles, breadth 420 miles. The fisheries of the North Sea are important, and employ many thousands of people. Lights both stationary and floating are placed along the difficult parts of the coasts for the convenience of traffic.

North Star, the star a of the constellation Ursa Minor. It is close to the true pole, never sets, and is therefore of great importance to navigators in the Northern Hemisphere.

Northwestern College, a coeducational institution in Naperville, Ill.; founded in 1861 under the auspices of the Evangelical Church.

Northwestern University, a coeducational institution in Evanston, Ill., founded in 1851, under the auspices of the Methodist Episcopal Church.

Northwest Passage, a passage for ships from the Atlantic Ocean into the Pacific by the N. coasts of the American continent, long sought for, and at last discovered in 1850–1851 by Sir R. MacClure.

Northwest Territories, a political division of British North America; comprising the territories of Assiniboia West (pop. 17,692); Assiniboia East (pop. 49,693)), Saskatchewan (pop. 25,679), and Alberta (pop. 65,877); gross area, about 2,350,000 square miles; pop. (1901) 158,940; capital, Regina, in Assiniboia East.

Government.—Public affairs are administered by a lieutenant-governor, an executive council, and a legislative assembly.

Industries.—Mining is the most important industry and has materially increased since 1898. Gold mining is carried on principally in the Yukon region. Considerable gold mining was formerly carried on in Saskatchewan, but the industry has been decreased with the development of the Yukon fields. An entrance fee of $15 for placer mining is charged, and the government requires a royalty of 10 per cent. of the entire output. There are supposed to be extensive oil regions in the Northwest Territories, but up to 1902 little had been done to develop them. The fishery industry is not extensively carried on.

The law makes education compulsory for children between the ages of 12 and 16. Religious instruction is allowed only after 3 P. M., and parents may withdraw their children at that hour, if they so desire. The number of schools in 1900 was 592, with an enrollment of 20,343 pupils. The Roman Catholic schools had 2,128 registered pupils.

The Northwest Territories, including Manitoba, up to 1869 was governed by the Hudson Bay Company, through a chief governor and council. For administrative purposes the region was divided into four large sections which were again subdivided into 33 districts, in which were located 155 trading posts. The Hudson Bay Company relinquished its claims in 1869 and they passed into the possession of Canada in the following year.

Norton, Andrews, an American theologian; born in Hingham, Mass., Dec. 31, 1786; was graduated at Harvard in 1804. In 1819–1830 he was Dexter Professor of Sacred Literature at Harvard. He was among the most distinguished exponents of Unitarianism, equally determined in his protest against Calvinism and in his opposition to the school of Theodore Parker and the naturalistic theology. He died in Newport, R. I., Sept. 18, 1853.

Norton, Charles Eliot, an American educator; born in Cambridge, Mass., Nov. 16, 1827; was graduated at Harvard in 1846. Dr. Norton was well known as a Dante scholar and an authority on art. He was Professor of the History of Art at Harvard in 1874–1898. He is author of "Historical Studies of Church Building in the Middle Ages," and editor of "Letters of James Russell Lowell"; "Letters of Thomas Carlyle," etc.

Norton, Charles Ledyard, an American author; born in Farmington, Conn., in 1837. He was graduated at Yale in 1859; was editor of the "Christian Union" 1869–1879, and in 1893 became editor of "Outing." His books, of travel, recreation, and in more serious vein, are widely read.

Norton, Charles Stewart, an American naval officer; born in Albany, N. Y., Aug. 10, 1836; was graduated at the United States Naval Academy in 1855; and was promoted rear-admiral in 1897. During the Civil War he served with distinction at Charleston, Hampton Roads, and Port Royal. He commanded the South Atlantic station in 1894–1896, and was in charge of the Washington navy yard and station in 1896–1898. He was retired in 1898 on reaching the age limit.

Norton, Lillian, operatic singer, known as "Mme. Nordica," born Farmington, Maine, 1859, educated in New England and at Milan, Italy; married, first Mr. Gower; second, Herr Dome. Has appeared in leading cities in Europe and America, and is best known in Wagnerian parts. Presented with gold medal by Prince Regent of Bavaria in 1903.

Norway (Norwegian, Norge), a country in the N. of Europe, bounded on the N. E. by Russian Lapland, and E. by Sweden, and washed on all other sides by the sea; by the Arctic Ocean on the N., the Atlantic and the North Sea on the N. W. and W., and the Skager-rack on the S. It is about 1,080 miles in length, and its greatest breadth is about 275 miles, but toward the N. narrows so much as to be in some places not more than 20 miles; area, 124,445 square miles; pop. (1900) 2,239,880.

The coast consists chiefly of bold precipitous cliffs, and is remarkable both for the innumerable islands by which it is lined, and the bays or fiords which cut deeply into it in all directions. The surface is very mountainous, particularly in the W. and N. Very commonly the mountain masses assume the form of great plateaux or table-lands, called fjelds or fields, as the Dovre Fjeld, Hardanger Fjeld, etc.

The climate of Norway is on the whole severe. The harbors on the W., however, are never blocked up with ice; but in places more inland, though much farther S., as at Christiania, this regularly happens. The farms are generally the property of those who cultivate them, and commonly include a large stretch of mountain pasture, often 40 or 50 miles from the main farm, to which the cattle are sent for several months in summer. The rearing of cattle is an extensive and profitable branch of rural economy. The horses are vigorous and sure-footed,

but of a diminutive size; the ponies are among the best of their kind, and are often exported. The reindeer forms the principal stock in the extreme N. Among the larger wild animals are the wolf, bear, elk, deer. The fisheries of Norway are of very great value; they include the cod, herring, mackerel, salmon, shark, walrus, seal, and lobster, the cod and herring fisheries being by far the most important. There are flourishing manufactures of textiles, machinery, tobacco, sugar, lucifer matches, etc. Norway is divided into 20 prefectures. The government is a limited hereditary monarchy, united with Sweden as a free and independent kingdom. The king is not allowed to nominate any but Norwegian subjects to offices under the crown. He has the veto power on the Storthing or Legislative Assembly. Members of the Storthing are elected every three years by voters who have themselves been elected by the citizens. It has two chambers, the Odelsthing, containing three-fourths of the members, and the Lagthing, one-fourth. The great body of the people are Protestants of the Lutheran confession, which is the state religion. Other sects are tolerated, though government offices are open only to members of the Established Church. Elementary education is free and compulsory. Besides primary schools there are numerous secondary schools. There is but one university, that of Christiania. The people are almost entirely of Scandinavian origin. A small number of Lapps (called in Norway Finns) and Qvaens, reckoned at 20,000 in all, live in the N. The chief ports are Bergen, Christiania, and Trondbjem; the capital is Christiania.

Norway Spruce, a tree which abounds in Norway. It is largely used in building.

Norwich, England. A city, the capital of the county of Norfolk, with large textile and other industries, and a population of about 112,000.

Nose, the organ of smell, consisting of two parts, one external, the nose, the other internal, the nasal fossæ. The nose is a triangular pyramid projecting from the center of the face, above the upper lip, divided internally by the septum or columna into two, forming the nostrils. The sense of smell is produced by the action of the olfactory nerve on the meatuses of the nasal fossæ.

Nosology, the branch of medicine which treats of the distribution and arrangement of diseases into classes.

Nostalgia, homesickness; a form of melancholia sometimes occurring in persons who have left their homes. The symptom from which it derives its name is an intense desire to return home; and this is accompanied by great mental and physical depression, which may end fatally.

Notary, a public official authorized to attest signatures in deeds, contracts, affidavits, and declarations. They protest bills of exchange and notes, draw up protests after receiving affidavits of mariners and masters of ships, and administer oaths. Also called a notary public.

Note, in music, a character which, by its place on the staff, represents a sound, and by its form determines the relative time or continuance of such sound.

Notre Dame, a title of the Virgin Mary, and the name of many churches in France, and particularly of the great cathedral at Paris, which was founded in the 12th century, and forms a prominent object in the city.

Notre Dame, University of, an educational institution in Notre Dame, Ind.; founded in 1842 under the auspices of the Roman Catholic Church.

Nott, Eliphalet, an American educator; born in Ashford, Conn., June 25, 1773. He was ordained a Presbyterian minister in 1795. He became president of Union College in 1804, where he remained till his death. He died in Schenectady, N. Y., Jan. 29, 1866.

Nottingham, a town near the middle of England, capital of the county of same name, 110 miles N. W. of London. It occupies a picturesque site overlooking the Vale of Trent, and has one of the finest and largest market places in the kingdom. The staple manufactures are hosiery and lace, the latter being a sort of specialty. There are also manufactures of cotton, woolen, and silk goods, and of articles in malleable and cast iron. Nottingham was a place of importance in Anglo-Saxon times, and was twice or thrice

taken by the Danes. Pop. (1901) 239,753.

Noun, a name; a word used to denote any object of which we speak, whether animate or inanimate, material or immaterial.

Nourse, Henry Stedman, an American author; born in Lancaster, Mass., April 9, 1831; was graduated at Harvard University in 1853; Professor of Ancient Languages at Phillips Exeter Academy in 1853–1855; captain of the 55th Illinois volunteers, and commissary of musters, 17th Army Corps, in 1861–1865. He became a member of various institutions and historical societies, and published a large number of books, among them "The Story of the 55th Regiment of Illinois Infantry," "History of the Town of Harvard, Mass.," etc.

Nova Scotia, a province of the Dominion of Canada, comprising the peninsula of Nova Scotia proper and the island of Cape Breton. It is bounded N. and N. W. by the Bay of Fundy, a small section of New Brunswick, the Strait of Northumberland, and the Gulf of St. Lawrence, and on the E. and S. by the Atlantic. The main peninsula is separated from Cape Breton by the narrow channel of the "Gut" of Canso. Its extreme length is 350 miles, and its breadth from 50 to 100 miles. The area is 20,600 square miles — a little smaller than West Virginia. The coast is indented with numerous inlets, that form a great number of good harbors. Exclusive of these, the coast-line is about 1,000 miles long. The soil is generally fertile. The climate is temperate and equable, the mean temperature about 42° F. The summer average is 61°, the winter 23°. Though there is much sea fog, the climate is generally healthy.

Agriculture is the principal industry; the chief products, hay, wheat, barley, oats, rye, Indian corn, potatoes, fruits, and berries. Other important industries are fishing, lumbering, and mining. The fisheries for 1899 gave a yield of $7,347,604. The forests of Nova Scotia are large and valuable, but have been injured by extensive forest fires. Coal and gold are the chief minerals, the output of both constantly increasing. Ship building is extensively carried on, and manufacturing industries are rapidly increasing. There is a normal college and six classical colleges, a theological college (Presbyterian), 18 academies, and 1,700 grammar schools. There is a provincial legislature in two houses. The executive is a lieutenant-governor, appointed by the Governor-general of Canada. He has a council of nine members.

Nova Scotia is supposed to have been first visited and discovered by the Cabots in 1497. Its first settlers were French, who located themselves here in 1604, but were expelled by settlers from Virginia, who claimed the country by right of discovery. The French called the country Acadia. It was ceded to Great Britain in 1763, and joined to Canada in 1867. It receives a subsidy from Canada, toward the support of the provincial government. Imports (1899) $7,425,140; exports, $11,480,120. The chief cities are Halifax, Yarmouth, Truro, and Spring Hill. Pop. of the province (1901) 459,574.

Nova Zembla, two large islands in the Arctic Ocean, belonging to Russia, and lying N. from the N. E. corner of European Russia, separated from each other by the narrow strait Matotshkin Shar; length, 635 miles; breadth, 170 miles. The coasts swarm with seals, fish, and water-fowl. The interior is covered with stunted shrubs, short grass, and moss, and is frequented by reindeer, white bears, ermines, and Arctic foxes. It has no permanent inhabitants, but is visited by Russian hunters and fishers.

Novel, a prose narrative of fictitious events connected by a plot, and involving portraitures of character and descriptions of scenery.

November, the 11th month of the year. Among the Romans it was the 9th month at the time when the year consisted of 10 months, and then contained 30 days. It subsequently was made to contain only 29, but Julius Cæsar gave it 31; and in the reign of Augustus the number was restored to 30, which number it has since retained. Its festivals are All Saints (1), St. Hubert (3), St. Martin (11), St. Catherine (25), and St. Andrew (30).

Novice, in ecclesiology, a person of either sex who is living in a monastery, in a state of probation, previous

to becoming a professed member of an order. The time of probation must be at least one year.

Novy, Frederic George, an American chemist; born in Chicago, Ill., Dec. 9, 1864; was graduated at the University of Michigan in 1886; studied in Koch's laboratory, Berlin, in 1888, receiving the degree of M. D. in 1891. In 1897 he experimented in the Pasteur Institute, Paris, continuing his researches two years later in Prague. Meanwhile he had been made junior professor (1893), of hygienic and physiological chemistry at the University of Michigan; and in 1901 was appointed a member of the United States Commission to investigate the bubonic plague in the Orient. On his return Professor Novy began a series of experiments which resulted in the discovery of a new compound called "benzozone," which was claimed to be a preventive for intestinal diseases, such as Asiatic cholera and typhoid fever. He wrote "Cocaine and Its Derivatives."

Nox, or **Nyx,** in classical mythology, the goddess of night.

Noyes, George Rapall, an American Biblical scholar; born in Newburyport, Mass., March 6, 1798; was graduated at Harvard in 1818, and studied theology at Cambridge Divinity School. In 1840 he was made Professor of Hebrew and Oriental Languages and Dexter Lecturer on Biblical Literature at Harvard. Besides many reviews and sermons, he published new translations, with notes, of several books of the Old Testament. He died in Cambridge, Mass., June 3, 1868.

Noyes, John Humphrey, an American religious leader; born in Brattleboro, Vt., Sept. 6, 1811; was graduated at Dartmouth College in 1830; first studied law, and afterward divinity at Andover and New Haven. In 1838 he founded a community of Perfectionists near Putney, in 1847 one at Lenox, N. Y.; and subsequently one at Wallingford, Conn. In the latter years of his life he was much influenced by Fourier and was an enthusiastic exponent of communism. He published "The Second Coming of Christ"; "History of American Socialism"; etc. He died in Niagara Falls, Canada, April 13, 1886.

Nubia, a comparatively modern name for a large region of Africa, formerly a portion of Ethiopia, and extending on both sides of the Nile from Egypt to Abyssinia; touching the Red Sea on the E. and the desert on the W. At present the country is occupied by races belonging to several different stocks, which have in most places become much mixed in blood. The chief elements are Arab, more or less mixed with Nilotic and Negro blood. The Semitic Arabs are comparatively recent intruders to this region. They entered Nubia after occupying Egypt in the 7th century, but were resisted by the Christian Dongolawi kings till the 14th century, when the Arabs, assisted by a large contingent of Bosnians, became masters of the land. The various tribes, most of them active and warlike, are Moslems by faith, and till 1820 were ruled by their own chiefs. In that year Ismail Pasha made Nubia an Egyptian territory; and till 1881 it shared the fate of Egypt. Both in its lower and upper sections Nubia is for the most part an expanse of steppes or rocky desert. The great "Nubian Desert" lies E. of the Nile, opposite the great W. bend of the river. Below Khartum rain is almost unknown; the climate is excessively hot and dry, and, except in the river ports after the fall of the Nile, is very healthy.

Nucleus, in astronomy, a term used often to indicate the central part, or umbra, of a sun-spot, or one of the smaller dark spots contained within the umbræ. It is also used to denote the central condensation in the head of a comet or in a nebula.

Nuisance, in law, anything which unlawfully annoys or incommodes, or causes damage or inconvenience. Nuisances are of two kinds, private and public (or common): private when they affect the lands, tenements, hereditaments, or comfort of particular individuals; public when they affect the whole community.

Nullification, in American politics, the doctrine formerly held by the extreme States' Rights party, of the right of a State to declare a law of Congress unconstitutional and void, and if the Federal government attempted to enforce it, to withdraw from the Union.

Numa Pompilius, the second King of Rome; said to have reigned from 714 to 672 B. C.

Numbers, one of the books of the Old Testament. It spans a period of nearly 39 years, commencing with the second year of the wanderings, the second month, and the first day, and terminating in the 40th year. The Jews and the Christians of early and mediæval times implicitly believed in the Mosaic authorship of Numbers.

Numbering Machine, a machine for impressing consecutive numbers on account or record books (a paging-machine), coupons, railway certificates, bank-notes, railway tickets, etc.

Numeral, a figure or character used to express a number; as the Arabic numerals, 1, 2, 3, etc., or the Roman numerals, I., V., X., L., C., D., M., etc.

BALCONY OF A HOUSE IN NUREMBERG.

Numeration, the art of expressing in characters any number proposed in words, or of expressing in words any number proposed in characters. The chief terms used for this purpose are the names of the digits from 1 to 10, 100, 1,000, etc.

Numidia, the name given by the Romans to a part of the N. coast of Africa, corresponding to some extent with the modern Algiers, and lying between Mauritania and the Roman province of Africa; on the S. it reached to the chains of Mount Atlas.

Numismatics, the science and study of the coins of all nations. In the wider, though less accurate, acceptation of the term it includes also that of medals, both artistic and historical. The various branches of numismatics are (1) Greek, Phœnician, etc.; (2) Roman and Byzantine; (3) Mediæval and Modern; and (4) Oriental. The chief value of numismatics consists in the light which coins throw on history.

Nun, a virgin or widow who has consecrated herself to the service of God by the three vows of poverty, chastity, and obedience, and bound herself to live in a religious house under a certain rule.

Nuncio, a messenger; one who announces; one who brings tidings. Specifically, a papal ambassador of the second rank, not being a cardinal, who represents the Pope at a foreign court. An ambassador who is also a cardinal is styled a legate.

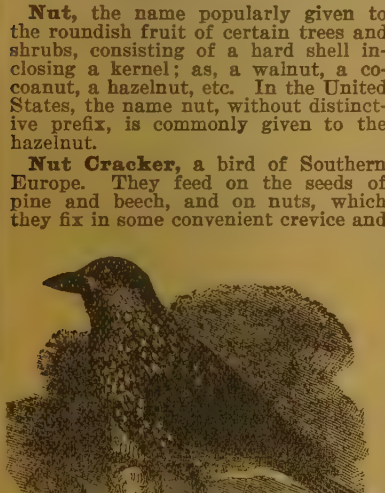
Nuncupative Will, a will made by the verbal declaration of the testator, and depending merely on oral testimony for proof, though afterward reduced to writing. Nuncupative wills are now abolished, but with a proviso that any soldier in actual military service, or any mariner or seaman at sea, or a person in sudden deadly peril, may dispose of his personal estate by making an oral statement before a number of witnesses.

Nuremberg, a city in the Bavarian province of Middle Franconia, Germany; on the Pegnitz river; 95 miles N. by W. of Munich. It is the quaintest and most interesting town of Germany, on account of the wealth of

mediæval architecture which it presents in its many-towered walls, its gateways, its picturesque streets with their gabled house fronts, its bridges, and its beautiful Gothic fountains. Though the glory of Nuremberg's foreign commerce has long since passed away, the home trade is still of high importance. It includes the specialties of metal, wood, and bone carvings, and children's "Dutch" toys and dolls, which, known as "Nuremberg wares," find a ready sale in every part of Europe, and are largely exported to America and the East. In all there are close on 200 factories, producing also chemicals, ultramarine, type, lead-pencils, beer, etc., and the town besides does a vast export trade in hops and import trade in colonial wares from the Netherlands.

Nut, the name popularly given to the roundish fruit of certain trees and shrubs, consisting of a hard shell inclosing a kernel; as, a walnut, a cocoanut, a hazelnut, etc. In the United States, the name nut, without distinctive prefix, is commonly given to the hazelnut.

Nut Cracker, a bird of Southern Europe. They feed on the seeds of pine and beech, and on nuts, which they fix in some convenient crevice and



NUT CRACKER

hammer with the beak till the kernel is exposed. The plumage is of different shades of brown, studded with long white spots.

Nutmeg, the kernel of the fruit of Myristica moschata or fragrans. This fruit is a nearly spherical drupe of the size and somewhat of the shape of a small pear. The fleshy part is of a yellowish color without, almost white within, and four or five lines in thickness, and opens into nearly equal longitudinal valves, presenting to view the nut surrounded by its arillus, known to us as "mace." The nut is oval, the shell very hard and dark-brown. This immediately envelops the kernel, which is the nutmeg as commonly sold in the shops. The tree producing this fruit grows principally in the islands of Banda in the East Indies, and has been introduced into Sumatra, India, Brazil, and the West Indies. It reaches the height of 20 to 30 feet, producing numerous branches.

Nutmeg State, Connecticut. Its sons possess such a reputation for shrewd habits that they have been jocularly charged with manufacturing and selling nutmegs made of wood and colored to imitate the real article.

Nuttall, Thomas, an American naturalist; born in Settle, England, in 1786. By trade a printer, he came to the United States; traveled extensively in the Mississippi valley, exploring both the Missouri and the Arkansas rivers, and also visited the Pacific coast. Part of his observations appeared in "A Journal of Travels into the Arkansas Territory." He also published a "Manual of the Ornithology of the United States and Canada." From 1822 to 1834 he was Professor of Natural History in Harvard, but having inherited an estate in England, returned to that country and died there, Sept. 10, 1859.

Nux Vomica, the seeds of Strychnos nux vomica. They contain two alkaloids, strychnia and brucia, with a peculiar acid. Nux vomica is used in medicine.

Nyanza, an African word meaning lake, and especially applied to three bodies of water lying in the equatorial region of Africa. Of these the first was discovered in 1858 by Captain Speke, and by him named Victoria Nyanza. It is almost circular in form; 180 miles in diameter; has an area of 27,000 square miles; and is, with the exception of Lake Superior, the largest fresh water lake in the world. It is

supposed to be one of the sources of the Nile.

Nyassa, or **Nyanja,** one of the equatorial great lakes of East Africa; about 260 miles S. E. of Tanganyika and 400 inland from the E. coast.

Nyassaland, a name applied to the regions immediately S. W. and N. W. of Lake Nyassa, but without conveying any precise limitation of boundaries, practically means the region in which the African Lakes Company of Glasgow has carried on its operations since its foundation in 1878. Nyassaland was the nucleus of what was in 1891 constituted British Central Africa Protectorate, under an Imperial Commissioner, with an area of 42,217 square miles, and (1902) 377 European inhabitants. Lying on the W. and S. shores of Lake Nyassa, it forms the E. portion of British Central Africa, which stretches toward the interior and the Zambesi. The W. portion is mainly administered, since 1894, by the South Africa Company. In the portion more immediately under the commissioner are thriving plantations of coffee, cinchona, sugar, and tobacco.

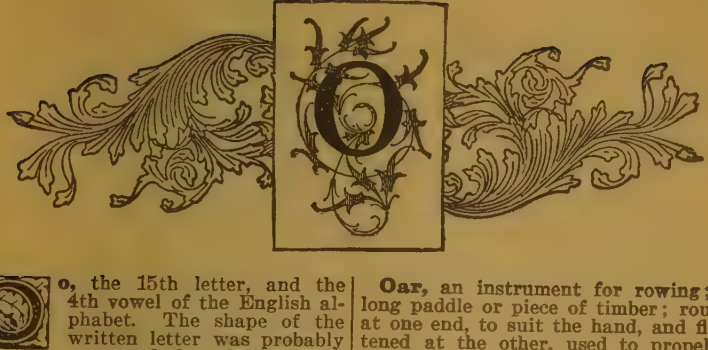
Nye, Edgar Wilson, an American humorist; born in Shirley, Me., Aug. 25, 1850; settled in Wyoming Territory; studied law, and was admitted to the bar in 1876. Afterward he removed to New York city, and became famous as a humorous lecturer and writer under the pseudonym of "Bill Nye." He died near Asheville, N. C., Feb. 22, 1896.

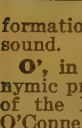
Nylghau, in zoölogy, the largest of the few true antelopes found in India,

NYLGHAU ANTELOPE.

where it is confined to the central parts. It frequents forests and low jungles, associating in small herds.

Nymphs, in Greek mythology, female divinities of inferior rank, inhabiting the sea, streams, groves, meadows and pastures, grottoes, fountains, hills, glens, and trees.





O, the 15th letter, and the 4th vowel of the English alphabet. The shape of the written letter was probably suggested by the circular formation of the lips in uttering the sound.

O', in Irish proper names, a patronymic prefix corresponding to the Mac of the Highlands of Scotland; thus O'Connell means "the son of Connell."

Oahu, one of the Hawaiian Islands, between Molokai and Kawai, the most important island of the archipelago, on which is the capital Honolulu; length 37 miles; greatest breadth, 25 miles; area 600 square miles. It is crossed by two mountain chains running parallel N. W. to S. E., between which is a large dry plain now only useful as pasture land. Highest point Kaala, altitude 3,890 feet.

Oak, any species of the genus Querous, and specifically Q. robur. It is sometimes 60 to 100 feet high, with a girth of 70 feet. The branches are long and spreading; the leaves are sinuate-lobed, oblong-obovate; the catkins pendulous, appearing with the leaves in April or May; the fruit a cupola, externally with many adpressed imbricated scales. There are two varieties — one with sessile and the other with pedunculated flowers; the latter is the most common in natural woods. Its timber is whitish and hard, that of the other reddish and brittle.

Oakum, a tangled mass of tarred hempen fibers, made from old rope by untwisting the strands and rubbing the fibers free from each other. Its principal use is in caulking the seams between planks, the space round rivets, bolts, etc., for the purpose of preventing water from penetrating.

Oar, an instrument for rowing; a long paddle or piece of timber; round at one end, to suit the hand, and flattened at the other, used to propel a boat, barge, etc., through the water.

Oar Fish, one of the ribbon-fishes, a peculiar deep-sea fish, 12 to 20 feet or more in length, but having a narrow and extremely compressed body. It is of a silvery color, and is only rarely met with, usually in a dying condition.

Oases, fertile spots in a desert, due to the presence of wells or of underground water supplies. The best known and most historically famous are those of the Libyan Desert and the Sahara; they occur also in the deserts of Arabia and Persia, and in the Gobi. The French have created many oases in the Algerian deserts by sinking artesian wells. The chief vegetation of the African oases is palms — especially date and doom palms; with barley, rice, and millet, when the fertile area is large enough to admit of settled occupation.

Oat, or **Oats,** a genus of edible grain cultivated extensively in all temperate climates, and though principally grown as food for horses largely used when ground into meal as human food. In the calendar year 1900 the oat crop of the United States aggregated 809,125,989 bushels, from 27,364,795 acres, valued at $208,669,233.

Oath, a solemn affirmation or declaration made with an appeal to God for the truth of what is affirmed. By the appeal to the Supreme Being, the person making oath is understood to invoke His vengeance if that which is affirmed or declared is false; or, in case of a promissory oath, if the promise or obligation should be willfully broken.

Oatmeal, the meal of the oat deprived of its husk. It is one of the most important and valuable articles of food, containing a greater proportion of proteine compounds than the finest wheaten flour. An analysis of a sample of oatmeal gave 13 per cent. of nitrogeneous material, 60-70 per cent. of heat givers, and 3 per cent. of mineral matter. It is a strong food, and requires much cooking in order to burst its starch cells; the longer it is cooked the more digestible it becomes.

Obadiah ("servant of God"), the name of various persons mentioned in the Old Testament. Also the fourth of the minor prophetic books. It contains only one chapter of 21 verses.

Obelisk, in architecture, a quadrangular, slender stone shaft, with a pyramidal apex. The width of the base is usually about one-tenth of the height, and the pyramidal apex has about one-tenth of the whole length. Obelisks were commonly formed from a single stone, mostly of granite. Obelisks were erected in pairs, and many still exist on the ancient sites, while others have been removed and set up elsewhere.

The obelisk was the Egyptian symbol of the supreme God. The Arabians called them Pharaoh's needles, and the Egyptian priests the fingers of the sun. The first obelisk is said to have been erected by Rameses, King of Egypt, in the time of the Trojan war; it was 40 cubits high, and employed 20,000 men in building. There are about a dozen Egyptian obelisks erected in Rome. The obelisk presented to the United States now stands in Central Park, New York. Within the foundation and steps of the pedestal were found stones and implements engraved with emblematic designs. The Washington obelisk at Washington is 555 feet high, and was dedicated Feb. 22, 1885. The Bunker Hill Monument may also be properly called an obelisk, and that with the Washington are the two most famous of American construction.

Ober, Frederick Albion, an American ornithologist, traveler, and author; born in Beverly, Mass., Feb. 13, 1849. He traveled extensively in Florida, the West Indies, Mexico, Spain, North Africa, and South America, and wrote: "Camps in the Caribbees"; "The Silver City" (1883); "Young Folks' History of Mexico"; "Montezuma's Gold Mines."

Oberholtzer, Mrs. Sara Louisa (Vickers), an American poet; born in Chester co., Pa., May 20, 1841. Her works include: "Violet Lee and Other Poems."

Oberlin College, a coeducational non-sectarian institution in Oberlin, O., founded in 1833.

Oberon, in mediæval mythology, the king of the fairies.

Oboe, a wind instrument of the reed kind, which at a very early date took its place as one of the essential instruments of the orchestra.

Obongo, or **Abongo,** a tribe of pigmies who live in different parts of French Kongo in West Africa. They are between four and five feet in height, are of a brown color, and have bushy hair which grows over their bodies as well as their heads. They are nomadic, follow fishing and hunting, and build conical grass huts.

Observatory, a building devoted to the observation of astronomical, magnetic, meteorological, or other natural phenomena. The astronomical observatory is the one of most general interest. Astronomical observation began at an early date in China; the pyramids in Egypt seem in some way to have been associated with stellar observation; and the first historical observatory was founded in Alexandria 300 B. C. The first European observatory was built at Nuremberg by Bernard Walther in 1472, and this was followed in the 16th century by Tycho Brahe's famous observatory on the island of Hveen near Copenhagen, while another was erected by the Landgrave of Hesse at Cassel in 1561. Through the labors of Brahe practical astronomy became associated with the universities, so that Leyden and Copenhagen founded observatories. Observatories now exist in all parts of the globe.

Obsidian (after Obsidius, a Roman, who first brought it from Ethiopia), in mineralogy, a vitreous lava. Forms important lava streams in the Lipari Islands, Iceland, Mexico, etc. The ancient Mexicans used it for knives, and it is often mentioned in connection with their human sacrifices.

O'Callaghan, Edmund Bailey, an American historian; born in Mallow, County Cork, Ireland, Feb. 29, 1797; was educated in Ireland and France; went to Quebec, Canada, in 1823, and was admitted to the practice of medicine in 1827. In 1870 he moved to New York city, where he died May 27, 1880. Among his publications are "History of the New Netherlands"; "Jesuit Relations"; "Documentary History of New York"; etc.

Occultism, the investigation of mysterious things, especially those that are supernatural; or supernatural power employed in human affairs as claimed by an astrologer; or modern theosophy, which claims a divine illumination and an insight into things hidden from ordinary people.

Ocean, the sea, using that term in its widest sense. Properly speaking, there is but one ocean or sea, all the salt water on the globe, with a few trifling exceptions like the Caspian, the Sea of Aral, and the Dead Sea, being more or less in complete communication with each other. Different portions of the ocean have received distinctive names. The Arctic, the Atlantic, the Indian, the Pacific, and the Antarctic oceans, five in all; or if the Atlantic and Pacific be separated into a N. and a S. portion by the equator, then there are seven in all. The unequal heating of portions of the vast expanse of water on the globe, the rotation of the earth, and other causes tend to keep the water in constant circulation and preserve it from being stagnant and impure. The winds also agitate the surface, producing wayes. The attractions of the moon and sun cause tides. The area of the ocean is about 155,000,000 square miles, or nearly three-fourths of the whole surface of the earth. This space is distributed (in square miles), among the principal seas as follows: Arctic 5,000,000; Southern, 10,000,000; Indian 20,000,000; Atlantic, 40,000,000, Pacific, 80,000,000. This great volume of water largely modifies the temperature of the adjacent lands, tempering the heat of summer and the cold of winter. As far as observation has yet extended, the average depth of the ocean is not more than 2,000 fathoms, i. e., somewhat more than two miles.

Oceania, a name sometimes given to the fifth division of the globe, comprising all the islands which intervene between the S. E. shores of the continent of Asia and the W. shores of America. It naturally divides itself into three great sections — the Malay Archipelago, Australasia, or Melanesia, and Polynesia.

Ocelot, a carnivorous mammal peculiar to the American continent. The fur has a tawny reddish ground, marked with black spots, aggregated in spots and blotches. It ranges through the wooded parts of tropical America, from Arkansas to Paraguay. Length, about four feet, legs short. It is cowardly, but voracious, and destroys a vast number of animals for the sake of sucking the blood, which it prefers to the flesh. In captivity it is playful and gentle.

Ochre, a combination of peroxide of iron with water; but the name is generally applied to clays colored with the oxides of iron in various proportions. Ochres vary in color from a pale sandy yellow to a brownish red, and are much used in painting.

Ochs, Adolph S., publisher of the New York "Times," born Cincinnati, O., March 12, 1858; son of Julius and Bertha (Levy) Ochs, who were natives of Germany. Young Ochs received a common school education, worked as newsboy and clerk in Knoxville, Tenn., and Providence, R. I., attending night school in the latter city; became a printer and publisher, and acquired the Chattanooga "Times," of which he is still proprietor, and in 1896 became publisher and principal owner of the New York "Times," which he has revived to wonderful success with his motto faithfully carried out, of "all the news that's fit to print."

O'Connell, Daniel, called the Liberator of Ireland and The Great Agitator, an Irish patriot; born in County Kerry, Ireland, Aug. 6, 1775. After receiving his education at the Roman Catholic College of St. Omer, and the Irish seminary at Douay, he became a student of Lincoln's Inn, London, in 1794, was admitted to the bar in 1798; and speedily rose to a large and lucrative practice as a special pleader. In 1809, he became popularly known by his fervent advocacy

of Catholic emancipation. He sat in the British House of Commons in 1828–1841, and became Lord Mayor of Dublin in 1841. The return of the Conservatives to power in that year was the signal for renewed political agitation in Ireland. Repeal of the Union was the object sought, and O'Connell placed himself at the head of the movement. A monster meeting to be held at Clontarf, Oct. 8, 1843, was estopped by the government, and O'Connell sentenced to pay a fine of $10,000, and to be imprisoned one year. This judgment was shortly after reversed by the House of Lords, and O'Connell set at liberty. The return of the Whigs to power in 1836, and O'Connell's avowed adherence to that party, brought him into unpopularity with the "Irish" national party, which he had swayed for half a century, and his health also failing him, he retired from public life. He wrote, "Memoirs of Ireland." While making a journey to Rome, he died in Genoa, Italy, May 15, 1847.

O'Connor, William Douglas, an American author; born in Boston, Mass., Jan. 2, 1833. He was on the editorial staff of the "Saturday Evening Post," Philadelphia, from 1854 to 1860, and afterward held several government places at Washington, D. C. He died in 1889.

O'Conor, Charles, an American lawyer; born in New York city, Jan. 22, 1804; was admitted to the bar in 1824, while still a minor. He became senior counsel for Jefferson Davis when the ex-Confederate President was indicted for treason, and was conspicuous in the suits against William M. Tweed in 1871. In 1869 he was elected president of the Law Institute of New York; in 1872 was nominated for President of the United States by one of the numerous conventions of that year, despite his protest, and was defeated; and in 1876 appeared before the Electoral Commission in support of the claims of Samuel J. Tilden. He died in Nantucket, Mass., May 12, 1884.

O'Conor, John Francis Xavier, an American educator; born in New York city, Aug. 1, 1852; was graduated at St. Francis Xavier College, and was a professor at West Park College, Georgetown University, Boston College, and St. Francis Xavier College. He has lectured on Christian and Greek art, Wagner operas, and cuneiform Assyrian, and has published "Babylonian Inscription of Nebuchadnezzar"; etc.

Octahedron, in geometry, a solid contained by eight equal and equilateral angles. It is one of the five regular bodies.

October, the 8th month of the so-called year of Romulus, which became the 10th when Numa changed the commencement of the year to Jan. 1, though it retained its original name. Many Roman and Greek festivals were celebrated in this month, the most remarkable of which was the sacrifice at Rome of the October horse to the god Mars.

Octopus, in zoölogy, the typical genus of the family Octopodidæ. The body is oval, warty, or cirrose, finless; arms long, unequal, suckers in two rows, mantle supported in front by the branchial septum. In the male the third right arm is hectocotylized. Found on the coasts of the temperate and tropical zones. Forty-six species are known, varying in length from one inch only to a number of feet. They are solitary animals, frequenting rocky shores, and are very active and voracious; the females oviposit on seaweeds or in empty shells. The term "octopus" is applied in the United States to monopolies supposed to resemble the octopus in their grasping and voracious character.

Odd Fellow, a member of the Independent Order of Odd Fellows, a secret fraternal society instituted in England in the 18th century, and now having extensive lodges in the United States, etc. Its organization is in lodges and encampments, grand lodges, grand encampments, and the Sovereign Grand Lodge of the World, and good moral character and belief in a Supreme Being are requisite for membership. The first lodge in the United States was established in 1819; the grand lodges of the United States reported in 1900 a membership of 862,723. The membership in Australasia, Germany, Denmark, Sweden, Switzerland, and the Netherlands was 890,965. The American order is not in affiliation with the English order entitled the "Manchester Unity of Odd

Fellows," which in 1897 reported a membership of 900,668. The Rebekah lodges admit to membership female relatives of the male members. There is also an organization of colored Odd Fellows, entitled the "Grand United Order of Odd Fellows of America."

Ode, a poem of lyrical character, supposed to express the poet's feelings in the pressure of high excitement, and taking an irregular form from the emotional fervency which seeks spontaneous rhythm for its varied utterance.

Odoacer, the first barbarian King of Italy, son of one of Attila's officers; born about 434. Odoacer was assassinated March 5, 493.

OCTOPUS.

O'Donovan, William Rudolf, an American sculptor; born in Preston co., Va., March 28, 1844; in the Civil War he served in the Confederate army; after the war established a studio in New York city; became associate of the National Academy in 1878. He made, with Thomas Eakins, the statues of Gen. U. S. Grant and Abraham Lincoln for the Memorial Arch, in Prospect Park, Brooklyn, N. Y.

Odyssey, a celebrated epic poem attributed to Homer, and descriptive of the adventures of Ulysses in his return home from the siege of Troy.

Œcumenical, universal, an epithet applied to the general councils of the Church. From the time of the Council of Chalcedon (451) the patriarchs of Constantinople took the title of œcumenical, in the same sense as the epithet Catholic is used in the Western Church.

Oehlenschlæger, Adam Gottlieb, the greatest dramatic poet of the Scandinavian North; born in Vesterbro, near Copenhagen, Denmark, Nov. 14, 1777. He commenced his career on the stage, but abandoned the profession for literature, and finally became Professor of Æsthetics in his native city. Among his greatest works is: "The Death of Balder"; etc. Died in Vesterbro, Jan 20, 1850.

Œsophagus, in anatomy, a slightly flexed canal, between the pharynx and the stomach, inclining to the left in the neck, the right in the upper thorax, and the left again through the posterior mediastinum. It is narrow and flat in the neck, and rounded in the lower and longest part. It passes through the diaphragm, and terminates nearly opposite the 10th dorsal vertebra in the cardiac orifice of the stomach. The passage of the food is caused by muscular contraction through the action of the parvagum nerve.

Officinal Plants, medicinal plants which have a place in pharmacopœias of different countries.

Offing, a nautical term for that portion of the sea beyond the mid-line between the coast and the horizon. Also for the position of a vessel, in that part of the sea beyond the mid-line between the coast and the horizon.

Og, King of Bashan at the time of the conquest of Canaan by the Israelites, by whom he and his people were destroyed.

Ogden, Aaron, an American military officer; born in Elizabethtown, N. J., Dec. 3, 1756; was graduated at Princeton in 1773; took an active part in the events preceding the Revolutionary War; and he was one of the party that captured the "Blue Mountain Valley," a British vessel bound, with munitions of war, for Boston, in 1775. During the Revolutionary War he was successively paymaster, captain and aide-de-camp, serving under Lafayette, being engaged on various dangerous and difficult missions, and receiving the personal approbation of Washington. He was later lieutenant-colonel of infantry, and deputy quartermaster-general, U. S. A. After the war he studied law, was United States Senator, and governor of New Jersey. In the War of 1812 he was commander-in-chief of the New Jersey State militia, retaining that post in preference to becoming a major-general in the regular army. He was president of the Society of the Cincinnati at the time of his death, in Jersey City, N. J., April 19, 1839.

Ogden, Francis Barber, an American inventor; born in Boonton, N. J., March 3, 1783; served as aide-de-camp to General Jackson in the battle of New Orleans, Jan. 8, 1815; is said to have been the first to apply the principles of the expansive power of steam, and the use of rectangular cranks in marine engines. In 1817 the first engine ever built on these lines was constructed in Leeds, England. The first screw propeller successfully introduced into practical use was launched by John Ericsson on the Thames, May, 1837, and was called the "Francis B. Ogden." The building of the first screw propeller for American waters was superintended by Mr. Ogden in Liverpool, where he was United States consul in 1829–1840. He died in Bristol, England, July 4, 1857.

Ogden, Frederick Nash, an American military officer; born in Baton Rouge, La., Jan. 25, 1837; entered mercantile life when a boy, but at the outbreak of the Civil War volunteered in the Confederate army. He subsequently became major of heavy artillery, and lieutenant-colonel of cavalry. After the war he again entered commercial life, and in 1868 founded the Crescent City Democratic Club, the most powerful political organization in New Orleans. He became Major-General of State Militia; was president of the Red Cross Association of Louisiana during the yellow fever epidemic of 1878, and was chief superintendent of the World's Fair held in New Orleans in 1884. He died in New Orleans, La., May 25, 1886.

Ogden, Herbert Gouverneur, an American cartographer; born in New York city, April 4, 1846. He served with the Nicaragua expedition in 1865, the first naval exploring expedition to the Isthmus of Darien in 1870, and was in charge of the party sent to locate the international boundary between British Columbia and Alaska, in 1893. He is a member of various scientific societies, a contributor to scientific journals, and a recognized expert in topography and cartography.

Oglesby, Richard James, an American lawyer; born in Oldham co., Ky., July 25, 1824. He served as a 1st lieutenant in the Mexican War; in 1849 was among the goldseekers who made the overland trip to California, where he engaged in mining for two years. In 1851 he returned to Illinois and resumed the practice of law; was elected State Senator in 1860, but resigned to enter the army in the Civil War. He was colonel of the 8th Illinois Volunteers, and before the close of the war was promoted Major-General. He was three times governor of Illinois, being first elected in 1864, reëlected in 1872, and again in 1885. He was elected United States Senator in 1873 and served six years. Died in Elkhart, Ill., April 24, 1899.

Oglethorpe, James Edward, an English military officer and philanthropist; born in London, England, Dec. 21, 1696. It was through his efforts that a colony was formed of insolvent debtors and persecuted Protestants, whom he brought to the Unit-

ed States and settled in Georgia, in 1733. He remained in the United States till 1743, when he returned to England. He died in Cranham Hall, Essex, England, in 1785.

Oglethorpe, Fort, a defensive structure erected by General Oglethorpe in 1737, on St. Simon's Island, Ala., near the mouth of the Alabama river. It was the scene of considerable fighting during the Revolution, as well as the War of 1812. Now in ruins.

O'Gorman, Thomas, an American clergyman; born in Boston, Mass., May 1, 1843; was educated in the United States and in France; received the degree of D. D. directly from Pope Leo XIII. in 1893; and was consecrated Roman Catholic Bishop of Sioux Falls, April 19, 1896. He was first president of the College of St. Thomas, St. Paul, Minn.; and professor at the Catholic University of America, Washington, D. C. He wrote "A History of the Roman Catholic Church in the United States."

O'Hara, Theodore, an American lawyer, author of the poem "The Bivouac of the Dead"; born in Danville, Ky., in 1820. He was a lawyer and journalist; at one time an officer in the United States navy; connected with the Lopez and Walker movements; served as captain and major in the Mexican War; afterward, for a year, in the United States cavalry; and in the Civil War as a colonel on the Confederate side. He died in Barbour co., Ala., June 7, 1867.

O'Higgins, Ambrosio, real name Ambrose Higgins, a South American administrator; born in County Meath, Ireland, about 1730. He went to Spain when a young man, where he was educated, and then became a trader in Chile. He obtained a commission in the army and rose rapidly; was captain-general of Chile 1788–1796, and viceroy of Peru from June 6, 1796, till his death in Lima, Peru, March 18, 1801.

O'Higgins, Bernarda, a Chilean general and statesman, son of Ambrosio O'Higgins; born in Chillan, Aug. 20, 1778. He was educated in England; was a prominent leader of the Chilean patriots in 1810, and in 1813 was made commander of the army. In the conflict with Spain in 1814 the combined forces of O'Higgins and Carrera were defeated at Rancagua and they fled across the Andes. O'Higgins joined San Martin in the invasion of Chile and a few days after their victory at Chacabuco (Feb. 12, 1817) he was made supreme dictator of Chile. The independence of the country was formally proclaimed Feb. 12, 1818, and was decided by the victory of Maipo, April 5, 1818. Like that of his father, the rule of O'Higgins was an excellent one. He was forced to resign by a revolution, Jan. 28, 1823, and retired to Peru. He died in Lima, Peru, Oct. 24, 1842.

Ohio, a State in the North Central Division of the North American Union; bounded by Michigan, Lake Erie, Pennsylvania, West Virginia, Kentucky, and Indiana; admitted to the Union, Feb. 19, 1803; capital, Columbus; number of counties, 88; area, 40,760 square miles; pop. (1890) 3,672,316, (1900) 4,157,545.

The surface of the State is an undulating plain with a transverse ridge crossing it in a N. E. and S. W. direction just N. of the center of the State. This ridge forms the watershed between those rivers belonging to the St. Lawrence and those of the Ohio river systems. The Ohio river forms over half the E., and the entire S. boundary of the State, and though it has an average descent of eight inches to the mile, is navigable its entire distance along the State. Lake Erie forms over two-thirds the N. boundary and provides Ohio with several excellent harbors.

The whole S. E. half of Ohio is underlaid with coal measures, showing seven distinct veins of superior coal, for gas making, or iron smelting. These coal measures have a practical working thickness of over 50 feet.

The mineralogical resources of Ohio are very extensive. The State ranks first in the United States in the production of petroleum, and clay products; third in coal and natural gas; and fourth in salt. Iron is found in several counties, and is adapted to fine class castings. Carbonate of lime, hydraulic cement, and quicklime are extensively manufactured. The sandstone near Cleveland is used exten-

sively for building purposes in the N. States and Canada.

The soil is divided into three grades, limestone soils, clay of the uplands, and swamp lands in the N. W. The former two are well adapted to agriculture, all the fruits, cereals, and vegetables of the temperate zone thriving well. Stock raising and dairy farming are becoming leading industries, and Ohio ranks first in the United States in her number of sheep, and value of her wool production.

BADGE OF THE ARMY OF THE CUMBERLAND.

At the end of the school year 1899–1900, the children of school census age numbered 1,179,600; the enrollment in public schools, 829,160. There were 13,073 public school buildings, public school property valued at $44,017,179, and 23,017 teachers. Among the colleges are the University of Cincinnati, at Cincinnati; Western Reserve University, at Cleveland; Ohio State University, at Columbus; Ohio Wesleyan University, at Delaware; Oberlin College, at Oberlin; and several others.

The governor is elected for a term of two years and receives a salary of $8,000 per annum. Legislative sessions are held biennially and limited in length to 60 days each. The Legislature has 29 members in the Senate, and 110 members in the House. There are 21 Representatives in Congress.

The site of the present State of Ohio was first explored by La Salle in 1680. About 1750 the English laid claim to the region, and their effort to make good their claim brought on the French and Indian War. In 1763, the whole region was ceded by France to England, and after the Revolutionary War it became part of the territory of the United States. In 1802 a constitution was adopted for the "Eastern Division of the Territory N. W. of the Ohio," under the name of Ohio, and it was formally admitted into the Union on Feb. 19, 1803. Ohio took an active part in the Civil War, and since the war has given five Presidents to the Union — Grant, Hayes, Garfield, Harrison, and McKinley, all born in this State.

Ohio, a river of the United States, called by the French explorers, after its Indian name, la Belle Riviere (The Beautiful River), next to the Missouri the largest affluent of the Mississippi. It is formed by the union of the Alleghany and Monongahela at Pittsburg, Pa., and flows W. S. W. 975 miles, with a breadth of 400 to 1,400 yards, draining, with its tributaries, an area of 214,000 square miles. In its course it separates the States of Ohio, Indiana, and Illinois from the States of West Virginia and Kentucky. It is usually navigable from Pittsburg.

Ohio, Army of the, a division of the Federal army in the Civil War; organized in 1861–1862 by General Buell; afterward came under the command of General Rosecrans and was called the Army of the Cumberland. A second department of the Ohio was formed, and was also in 1865 incorporated in the Army of the Cumberland.

Ohio, The, a first-class battleship of the United States navy. She is 40

feet longer than the "Oregon" and 2,000 tons greater in displacement; is 20 feet longer than the "Iowa" and 1,000 tons greater in displacement.

Ohio State University, a coeducational, non-sectarian institution in Columbus, O.; founded in 1870.

Ohio University, a coeducational, non-sectarian institution in Athens, O.; founded in 1804.

Ohio Wesleyan University, a coeducational institution in Delaware, O.; founded in 1844 under the auspices of the Methodist Episcopal Church.

Oil, in art, the fixed oils used in painting on canvas, etc., such as linseed, walnut, and poppy. In botany, oils of various kinds are found in the form of minute drops in the cells of many, if not of nearly all plants. In chemistry, a term generally applied to all neutral fatty substances which are liquid at ordinary temperatures.

Oil Well, a well sunk into an oil-bearing mineral bed, for the reception of the mineral oil or petroleum which filters or flows into it. Oil wells vary in depth from 100 to 1,000 feet, but the mode of sinking them is substantially similar.

Okhotsk, Sea of, an extensive inlet of the North Pacific Ocean, on the E. coast of Russian Siberia, nearly enclosed by Kamchatka and the Kuriles and Saghalien. It is little navigated. On its N. shore, at the mouth of the Okhota, is the small seaport of Okhotsk.

Oklahoma, one of the United States, bounded by Kansas, Indian Territory, Texas, New Mexico, and Colorado; organized as a Territory May 2, 1890; capital, Guthrie; number of counties, 26; area, 38,830 square miles; pop. (1890) 61,834; (1900) 398,331.

Oklahoma is in general an upland prairie rising gradually toward the N. and W.

The mineral resources have not as yet been worked to any great extent. The minerals, so far as known, include gold, silver, coal, iron, salt, gypsum, asphaltum, petroleum, building and flagging stones.

The soil is fertile and well adapted to the growth of cereals, vegetables, and fruits of the temperate zone. The hilly portions are well adapted to apple and grape growing, and the woodlands contain valuable walnut, oak, poplar, hickory, and pecan trees. The chief articles of manufacture include flour and grist, printing and publishing, cotton-seed and coke oil, saddlery, and harness, cotton, brick and tile, millinery, tobacco, artificial ice, dairy products, foundry and machine shop products, lime and cement, and malt liquors.

At the end of the school year 1899–1900 the children of school age numbered 120,210; the enrollment in public schools, 99,602. For higher education there were 8 public high schools, 5 private secondary schools, the University of Oklahoma, at Norman, and others.

Oklahoma is a part of the Louisiana Purchase of 1803, and of the tract set apart for Indian tribes by Act of Congress, June 30, 1834. On April 22, 1889, a proclamation was issued by the President opening 1,900,000 acres of land for settlement. There was a great rush of settlers and speculators, the city of Guthrie coming into existence in one day with a population of 10,000. Other lands have been opened from time to time. The first Territorial governor was appointed in 1890. In September, 1891, the Iowa, Sac, Fox, and Pottawatomie lands of 1,000,000 acres were opened; in April, 1892, the Cheyenne and Arapahoe lands of 3,000,000 acres; on Sept. 16, 1893, the Cherokee Strip of 6,000,000 acres; on May 23, 1895, a small section known as the Kickapoo lands; and on Aug. 6, 1901, the Kiowa, Comanche, Apache, and Wichita reservations, representing over 3,000,000 acres. In June, 1890, the country known as No Man's Land was attached to Oklahoma by Act of Congress, being created into Beaver county. Oklahoma has also acquired some territory from Texas, and is being so rapidly settled that its inhabitants look forward with confidence to its early admission as a State of the American Union.

Oklahoma, University of, a coeducational, non-sectarian institution in Norman, Okl.; founded in 1892.

Olaf, or St. Olaf, one of the most celebrated of the Norwegian kings, great-great-grandson of Harald Haarfager, and son of Harald, chief of the

district of Granland; born about 995. He was a friend of the Normans, and fought as an ally of Ethelred in England. He afterward established himself on the throne of Norway, and was a zealous supporter of Christianity. Canute the Great having landed in Norway with an army, Olaf fled to Russia, and in attempting to recover his dominions he was defeated and slain at the battle of Stiklestad (1030). Since 1164 he has been honored as the patron saint of Norway. The order of St. Olaf, a Norwegian order given in reward for services rendered to king and country or to art and science, was founded in 1847.

Old Abe, a noted eagle that went through the Civil War at the head of the 8th Wisconsin Regiment. He died at the age of 20 years, being overcome by smoke in a fire in the Capitol at Madison, Wis., where he was kept, March 26, 1881. He was stuffed and is now in the War Museum in Washington, D. C.

Old Bay State, Massachusetts, whose shores are washed by Cape Cod Bay. Prior to the adoption of the United States Constitution Massachusetts was known as "the Colony of Massachusetts Bay."

Old Catholics, the name assumed by a body of German priests and laymen who refused to accept the dogma of Papal Infallibility, and, in consequence of its definition, formed themselves into a separate body. It was essentially a university movement, for the German bishops who had left Rome to avoid voting — Hefele among the number — afterward submitted. March 28, 1871, Dr. Dollinger set forth his reasons for withholding his assent "as a Christian, a theologian, an historical student, and a citizen." Dollinger and Friedrich were immediately excommunicated. In September following a congress was held at Munich, when it was resolved to seek reunion with the Greeks. In 1872 a second congress was held at Cologne, at which Dean Stanley was present, and sent an account to the London "Times," which aroused much interest all over the world. The first synod (1874) made confession and fasting voluntary; the second (1875) reduced the number of feasts, and admitted only such impediments to marriage as were recognized by the State; the third (1876) permitted priests to marry, but forbade them to officiate after marriage. This prohibition was annulled by the fifth synod (1878), and, in consequence, Friedrich, Reusch, and some others withdrew. Congregations of Old Catholics exist in Austria, Italy, Spain, Switzerland, France, and Mexico, but their numbers are small. In Germany they seem to be dwindling away, but the protest of Dollinger and his fellows will remain an important landmark in religious history.

Old Dominion, Virginia. In colonial days acts of Parliament relating to the Virginia settlements (which at that time included all the British dominions in North America) always designated them as the "Colony and Dominion of Virginia." In the maps of the time this colony was described as "Old Virginia," in contradistinction to the New England settlements, which were called "New Virginia."

Old Glory, a popular name of the American flag; was first applied in 1831 by a Salem, Mass., skipper named William Driver, who was at that time captain of the brig "Charles Doggett." Captain Driver was a successful deep sea sailor, and at the time of bestowing the name "Old Glory" on the flag he was preparing to shape the brig's course to the Southern Pacific. Just before the brig left Salem, a young man at the head of a party of friends saluted Captain Driver on the deck of his vessel and presented him with a large and beautifully made American flag. It was sent aloft, and when flung to the breeze Captain Driver christened it "Old Glory." He took it to the South Pacific, and years after, when old age forced him to relinquish the sea, he treasured the flag as an old friend. In 1837 Captain Driver removed to Nashville, Tenn., and he died there in 1886. Previous to the outbreak of hostilities between the North and South "Old Glory" was flung to the breeze every day from the window of Captain Driver's Nashville house, but when the conflict began the old flag had to be secreted. It was kept out of sight till General Nelson's wing of the Union army appeared in Nashville, Feb. 27, 1862, when Captain Driver presented it to the general to be hoisted on the capi-

tol. It was run up, and Captain Driver himself did the hoisting. Its name and history soon became familiar to all the soldiers in General Nelson's command, and from Captain Driver's cherished flag the name "Old Glory" was extended by the boys in blue to every flag of the Union.

Old Guard, The, a celebrated body of troops in the Army of Napoleon I. It was distinguished for bravery, and at the battle of Waterloo made the final charge of the French army.

Old Hickory, a nickname of Andrew Jackson, first given by his soldiers in 1813. It is supposed by some to have originated in the example Jackson set his soldiers, when short of rations, of feeding on hickory nuts; but Parton says "It was not an instantaneous inspiration, but a growth. First of all, the remark was made by some soldier who was struck with his commander's pedestrian powers, that the general was 'tough.' Next it was observed that he was as 'tough as hickory.' Then he was called 'Hickory.' Lastly, the affectionate adjective 'old' was prefixed, and the general thenceforth rejoiced in the completed nickname, usually the first-won honor of a great commander."

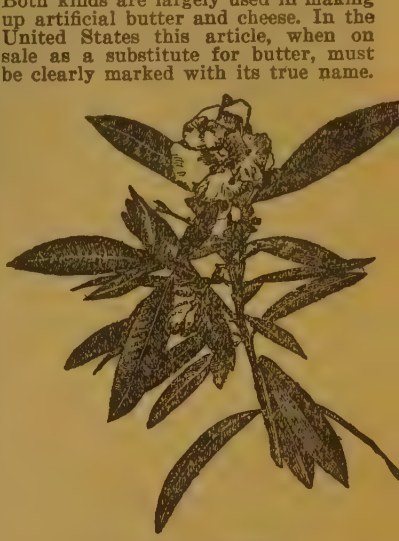
Old Ironsides, the name by which the United States frigate "Constitution" is best known.

Old World, the Eastern Hemisphere, so named in popular parlance subsequent to the discovery of the New World, in 1492.

Oleander, the common and sweet-scented oleander. They have lanceolate coriaceous leaves, with parallel veins and fine roseate flowers. The former is a native of India, now naturalized in many warm countries. Sweet-scented oleander is wild in Central India, Scinde, Afghanistan, and the outer Himalayas to 5,500 feet. Often cultivated in India, etc. All parts of the plants, especially the root, are poisonous.

Olefiant Gas, the most abundant illuminating constituent in coal-gas. It may be obtained by the destructive distillation of coal, but more readily by the action of sulphuric acid on alcohol. It is a colorless gas with a faint odor.

Oleomargarine, in chemistry the more oily part of beef fat, prepared extensively in this country by allowing the melted fat to cool slowly to 30°, when most of the stearin crystallizes out and is removed by pressure. Another brand of oleomargarine is prepared by adding nut oil to suet fat in such proportion as to reduce the melting point to that of butter fat. Both kinds are largely used in making up artificial butter and cheese. In the United States this article, when on sale as a substitute for butter, must be clearly marked with its true name.



COMMON OLEANDER.

Olfactory Nerves, in anatomy, the fifth pair of cerebral nerves ramifying on the Schneiderian membrane, producing the sense of smell, and also sensibility to the nose.

Oligarchy, a form of government in which the supreme power is vested in the hands of a small exclusive class; the members of such a class or body.

Oliphant, Margaret (Wilson), a Scotch novelist; born in Walyford, Scotland, in April, 1828; lived in Liverpool, London, Rome, and for nearly 30 years in Windsor, England. She was a most prolific authoress, publishing over 110 books, besides numerous articles and essays. She excelled in delineating character, and had a keen sense of humor. She died in Wimbledon, England, June 25, 1897.

Olive. The olive-tree is rarely above 25 feet high, but is of slow growth, and reaches a great age. Two varieties are known, the Oleaster and the cultivated variety. The former is spiny, and has worthless fruit; the many sub-varieties of the latter are unarmed and have large, oily fruits. Its original seat was probably Western Asia, and perhaps Europe as well. It was very early brought into cultivation, and in classic times was sacred to Minerva. It was very abundant in Palestine, and even yet there are fine olive plantations near Jerusalem, Nabulus (formerly Shechem), etc. It is often mentioned in the Old Testament by the Hebrew name zaith, and in the New by that of elaia. Both are correctly translated olive. The Mount of Olives was named from it, and Gethsemane means an oil press. Enormous quantities of olives are produced in Southern California, those from the vicinity of Santa Barbara being considered especially good in quality. The unripe fruits are pickled, and the ripe olives used for the manufacture of olive **oil.**

Olive Oil, in chemistry, Florence oil, or salad oil, a non-drying oil, extracted from the fruit of the olive by pressure. It is frequently adulterated with almond, nut, colza, cotton seed, and other oils.

Oliver, Charles Augustus, an American ophthalmologist; born in Cincinnati, O., Dec. 14, 1856; was graduated at the University of Pennsylvania in 1876; became surgeon to the Will's Eye, and the Philadelphia Hospitals, and honorary and corresponding member of many scientific societies. His publications include "Correlation Theory of Color Perception; Ophthalmic Methods in Recognition of Nerve Diseases"; "Ocular Therapeutics"; coauthor "Text Book of Ophthalmology"; coeditor "Systems of Diseases of the Eye"; etc.

Oliver, Paul Ambrose, an American military officer; born on shipboard in the English channel, July 18, 1830; was educated in Germany; settled in the United States, where he was engaged in business till the outbreak of the Civil War, when he entered the army as 2d lieutenant in the 12th New York Volunteers. He was in some of the hardest fighting of the war, and was brevetted Brigadier-General of volunteers, March 13, 1865. In 1870 he established a powder factory near Wilkesbarre, Pa., where he put into use machinery of his own invention to minimize the dangers of explosion. He became a member of the American Institute of Engineers, the Loyal Legion, and other organizations.

Olives, Mount of, or **Mount Olivet,** a ridge running N. and S. on the E. side of Jerusalem, its summit about half a mile from the city wall, and separated from it by the valley of the Kidron. It is composed of a chalky limestone, the rocks everywhere showing themselves. The olive trees that formerly covered it, and gave it its name, are now represented by a few trees and clumps of trees which ages of desolation have not eradicated. The central summit rises 200 feet above Jerusalem, and presents a fine view of the city, and indeed of the whole region. From the summit, three days before his death, Christ beheld Jerusalem, and wept over it, recalling the long ages of his more than parental care, and grieving over its approaching ruin.

Olivet College, an educational institution in Olivet, Mich.; founded in 1844 under the auspices of the Congregational Church.

Olmedo, Jose Joaquin, a South American poet; born in Guayaquil, Ecuador, May 20, 1781. His verses have been highly praised and widely circulated. He died Jan. 19, 1847.

Olmsted, Frederick Law, an American landscape architect; born in Hartford, Conn., April 26, 1822. In coöperation with Calvert Vaux he prepared the general design for Central Park in New York. He was also consulted regarding the park systems of Boston, Chicago, Buffalo, and other cities, the United States Capitol grounds and terrace, the grounds of the World's Columbian Exposition in Chicago, etc. He died in 1903.

Olney, Jesse, an American geographer; born in Union, Conn., Oct. 12, 1798. In 1828 he first published "A Geography and Atlas," which became a standard work for 30 years. He wrote a "History of the United States"; and a volume of poems,

"Psalms of Life." He died in Stratford, Conn., July 31, 1872.

Olney, Richard, an American lawyer; born in Oxford, Mass., Sept. 15, 1835; was graduated at Brown University in 1856, and at Harvard Law School in 1859; practised law in Boston; was United States attorney-general in 1893–1895; and Secretary of State of the United States in 1895–1897; then resumed private practice. He is still highly popular as an exponent of Democratic principles.

Olustee, or **Olustee Station,** a village of Baker co., Fla., about 20 miles E. of Lake City. Here in February, 1864, a Union force numbering about 5,000 men, under General Seymour, encountered a body of Confederates, under General Finnegan, and after a severe conflict of several hours, the Federals were defeated, with a loss of over 2,000 men, besides artillery, ammunition and wagon trains. Confederate loss about 1,000 men.

Olympia, a celebrated valley of Elis, in Greece, on the right bank of the Alpheus, and the seat of the Olympic games. The Sacred Grove (called the Altis) of Olympia, enclosed a level space about 4,000 feet long and nearly 2,000 broad, containing both the spot appropriated to the games and the sanctuaries connected with them. It was finely wooded, and in its center stood a clump of sycamores. The most celebrated building was the Olympieium, or Olympium, dedicated to Olympian Zeus. It was designed by the architect Libon of Elis in the 6th century B. C., but was not completed for more than a century. It contained a colossal statue of the god, the masterpiece of the sculptor Phidias.

Olympia, The, a protected cruiser of the United States navy; flagship of Dewey in the engagement with the Spaniards under Admiral Montojo in Manila Bay, May 1, 1898. The "Olympia" was struck five times about the upper works without sustaining material damage.

Olympic Games. These games, so famous among the Greeks, said to have been instituted in honor of Jupiter by the Idæi Dactyli, 1453 B. C., or by Pelops, 1307 B. C., revived by Iphitus 884 B. C., were held at the beginning of every fifth year, on the banks of the Alpheus, near Olympia, in the Peloponnesus, now the Morea, to exercise the youth in five kinds of combats, the conquerors being highly honored. The prize contended for was a crown made of a kind of wild olive, appropriated to this use. The festival was abolished by Theodosius, A. D. 394. In 1896, after a lapse of more than 1,500 years, these games were revived at Athens. They began April 6 and continued for five consecutive days. The number of spectators was enormous. Athletes from various countries of the world competed for prizes, and some of the principal contests were won by Americans. The games consisted of foot racing, wrestling, fencing, swimming, etc. The king crowned the victors with olive branches. In July, 1900, the second series was held in Paris, France, and was a great success. Americans again won a large portion of the events. The third meet was planned to be held in Chicago, Ill., in 1904.

Olympus, a celebrated mountain of Thessaly, on the border of Macedonia, 30 miles N. of Larissa. Its highest peak is 9,745 feet above the sea, and is covered with snow during two-thirds of the year. It was regarded by the ancient Greeks as the abode of the gods, and the palace of Jupiter was supposed to be on the summit.

Omaha, a city, port of entry, and county-seat of Douglas co., Neb.; on the Missouri river. It is built on a plateau broken by occasional bluffs.

The wholesale business of the city exceeds $75,000,000 per annum, and there are about 2,000 retail firms. There are extensive iron works which make and roll railroad iron, one of the best plants in the United States for separating, smelting, and refining ores of zinc, lead, copper, silver, and gold, and many machine shops. There is an immense trade in live stock, lumber, grain, hats and caps, boots and shoes, and groceries. There are also large manufactories of brick, carriages, white lead, and linseed oil. The prosperity of Omaha, which greatly increased after the Civil War, is due to its railroads and especially to that of the Union Pacific which was completed in 1869. An iron bridge, 2,750 feet long, built at a cost of $3,500,000, here spans the Missouri river.

The name Omaha is derived from a tribe of Dakota Indians. The city was founded in 1854 on a scale which anticipated its rapid growth. The capital of the territory was first situated here, but was later removed to Lincoln. In 1898 the city was the scene of a noteworthy exhibition. Pop. (1890) 140,452; (1900) 102,555.

Omaha, University of, a coeducational institution in Omaha, Neb.; founded in 1880 under the auspices of the Presbyterian Church.

Omahas, a tribe of North American Indians living in E. Nebraska. They number about 1,200. The name is derived from an Indian word meaning "those who go up the stream, or against the current."

Omar Khayyam, a Persian poet, astronomer, and mathematician; born in Nishapur in Khorasan. His scientific works, which were of high value in their day, have been eclipsed by his "Rubaiyat," a collection of about 500 epigrams in praise of wine, love, and pleasure, and at the same time depressingly pessimistic. He died in Nishapur, in 1123.

Omar Pasha, a Turkish general; born in Plaski, Turkey, in 1806 (according to some authorities, in 1811). On the accession of Abdul-Medjid in 1839, Omar Pasha was raised to the rank of colonel, and in 1842 appointed military governor of the Lebanon. On the invasion of the Danubian Principalities by the Russians in 1853 Omar Pasha collected an army of 60,000 men and, crossing the Danube in presence of the enemy, intrenched himself at Kalafat, where he successfully withstood the Russians; after they withdrew from the Principalities Omar Pasha entered Bucharest in triumph in August, 1854. Feb. 9, 1855, he embarked for the Crimea, and on the 17th of the same month repulsed with great loss 40,000 Russians who attacked him at Eupatoria. In September, 1861, he was charged to pacify Bosnia and Herzegovina, which were again in insurrection. This being accomplished he attacked the Montenegrins, captured Cetinje, and overran the country in 1862. He died April 18, 1871.

Omega, the name for the Greek long o. It was the last letter in the Greek alphabet, as alpha was the first. Inscriptions on tombstones, public documents, etc., very often begin with these two letters, meaning, "In the name of God."

Omen, a sign believed to prognosticate a future event. Omens have been common among most nations, but were chiefly received in the ruder ages, and among the more ignorant of a people. Even in the present day in many parts of the United States and England, a superstitious belief in omens exists.

Omnibus, a Latin word signifying "for all," and now applied in several languages to the well-known vehicle used for the conveyance of passengers at a cheap rate.

Omri, a general of the army of Elah, King of Israel, who, being at the siege of Gibbethon, and hearing that his master Elah was assassinated by Zimri, who had usurped his kingdom, raised the siege, and being elected king by his army, marched against Zimri, attacked him at Tirzah, and forced him to burn himself and all his family in the palace in which he had shut himself up. After his death, half of Israel acknowledged Omri for king; the other half adhered to Tibni, son of Ginath, which division continued four years. When Tibni was dead, the people united in acknowledging Omri as King of all Israel, and he reigned 12 years. Omri built the city of Samaria, which became the capital of the kingdom of the ten tribes. It appears under the name of Beth-Omri, on the stone tablets exhumed by Layard from the ruins of Nineveh.

Oneidas, once a North American Indian tribe inhabiting Central New York. A remnant in Wisconsin are well advanced in civilization.

O'Neil, Charles, an American naval officer; born in England in 1842; entered the United States navy as master's mate in 1861; served on the "Cumberland" at the capture of Forts Hatteras and Clark in August, 1861; and in the engagement with the Confederate iron-clad "Merrimac," March 8, 1862; was in both attacks on Fort Fisher; promoted captain, July 21, 1897; became chief of the naval bureau of ordnance in June, 1897; and was promoted rear-admiral, April 22, 1901.

Onion. The onion, which has a coated bulbous root and large fistular leaves, has been cultivated from a very early age (Num. xi: 51). It is generally sown in rich, loamy, and rather moist soil. A variety of it is called the potato, or underground onion. It multiplies in bulbs below the ground. Also various plants of other genera, more or less resembling the common onion.

Onondagas, a tribe of North American Indians living chiefly in New York. At one time they laid claim to all the country from Onondaga Lake to Lake Ontario on the N., and to the Susquehanna river on the S. At the close of the Revolutionary War some settled on Grand river, Ontario, and the remainder in New York. The total number at present is about 900.

Ontario, a province of the Dominion of Canada (formerly called Upper Canada, or Canada West); bounded on the W. by Manitoba, on the N. by Keewatin and James Bay; on the N. E. and E. by the province of Quebec, on the S. E. by the St. Lawrence, on the S. and S. W. by Lakes Ontario, Erie, Huron, and Superior; area, 222,000 square miles; pop. (1900) 2,182,942; capital, Toronto; pop. (1901) 207,971. Ottawa, the Dominion capital, is situated in the E. part of the province. The surface is generally low, no elevation exceeding 1,000 feet. The province is crossed by the Laurentian hills. The climate is healthful with extreme cold only in the N. part

Mining is the principal industry of the province, the minerals including silver, copper, iron, nickel, gypsum, marble, and salt. The province is rich in petroleum, Lambton county containing the largest oil-producing districts. In 1883 nickel was discovered at Sudbury, the deposits since proving to be the richest on the Continent. In 1899 the government reserved to itself the right to prohibit the export of nickel ore and matter. The entire output for the years 1898–1900 was exported to the United States, chiefly for use in naval construction. In 1900 the nickel mines produced about 3,540 tons. The gold output of 1900 was valued at about $297,495, and the silver (1899) at $98,256 (amounting to 160,000 ounces). The total production of pig iron in 1899 was 64,749 net tons, valued at $808,157. A bureau of mines was created in 1891.

Farming is an important occupation and most of the soil is of excellent quality. The chief crops are hay and clover, Indian corn, wheat, barley, oats, peas, root crops, potatoes, and tobacco. The tobacco crop is important. Stock raising, dairy farming, and bee culture are among the industries of the province. The fisheries are valuable, and large quantities are exported.

The provincial government is administered by a lieutenant-governor appointed by the governor-general, for five years, assisted by a responsible ministry. There is only one chamber, the Legislative Assembly, which had 94 members, by the apportionment of 1891; on the same basis the province sent 24 senators and 92 representatives to the Dominion Parliament. The government's policy is to encourage the development of provincial resources.

The school system of the province is free, attendance being compulsory between the ages of 7 and 13; it includes kindergartens, public schools, and high schools (or collegiate institutions). "Separate schools" (chiefly Roman Catholic) are recognized as part of the system. At the head of the educational system stands the Toronto University. There is no state religion.

Ontario was first settled by the French. At the close of the American Revolution, many loyalists came to this region from the United States. In 1760 it passed into the hands of the British, who organized the province of Quebec in 1774 and in 1791 divided it into Upper and Lower Canada. These were reunited in 1841, and again separated when the Dominion of Canada was organized in 1867, the W. province becoming the province of Ontario. Several battles of the War of 1812 occurred in this region, including those of the Thames, of Lundy's Lane, etc. An unsuccessful rebellion occurred in 1837.

Ontario, Lake, the smallest and most E. of the five great lakes of North America, in the St. Lawrence basin, partly belonging to Canada and partly to the State of New York. It

is of an elongated, oval shape, 172 miles in length, by a maximum breadth (in the center) of 60 miles; covering an area of about 5,400 square miles. Its surface level is about 334 feet below that of Lake Erie, and 231 feet above the tide level of the St. Lawrence. Its depth is said to average 490 feet; but in some places it is upwards of 600 feet in depth, and it is navigable throughout its whole extent for vessels of the largest size. Lake Ontario has many good harbors; and as it never freezes, except at the sides, where the water is shallow, its navigation is not interrupted like that of Lake Erie. It is, however, subject to violent storms and heavy swells. It communicates by the Genesee river and Oswego canal with the Erie canal, and with the Hudson river and New York city; the Niagara river and the Welland canal, at its S. W. extremity, unite it with Lake Erie, and the Rideau canal connects it with the Ottawa at Ottawa city. Numerous sailing vessels and steamers of large size navigate the lake.

Onyx, a semi-pellucid gem with variously colored zones or veins. Any stone exhibiting layers of two or more colors strongly contrasted is called an onyx.

Oolite, in petrology, a variety of limestone, composed of grains, like the roe of a fish, each of which has usually a small fragment of some organism or a grain of a mineral as a nucleus, around which concentric layers of calcareous matter have accumulated. In geology and palæontology, the term is now chiefly chronological, being applied to a considerable portion of the Secondary period and to the strata then deposited. During the Oölitic period the present continents were largely covered by the sea, hot enough to be studded in places with coral reefs and contain certain cephalopods like Ammonites and Belemnites. At intervals muddy sediment so clouded the water as to kill the coral animals. Islands in the sea had a vegetation of cycads, ferns, coniferæ, etc. Reptiles abounded, birds had apparently come into being, and also mammals of the marsupial type.

Opah, the king fish, a large and beautiful fish, native of the Eastern seas, and weighing from 140 to 150 pounds. It is held sacred by the Japanese, who regard it as the peculiar emblem of happiness.

Open Bill, an African bird of the stork family, so named from the odd formation of the beak, which at the anterior end exhibits a gap between the mandibles as if part of them were worn away though they meet at the points. Their chief food is mollusks.

Opera, a dramatic composition set to music and sung on the stage, accompanied with musical instruments and enriched by the accessories of costumes, scenery, dancing, etc.

Opera Bouffe, a farcical form of opera buffa in which the characters, subject matter, and music is intended to burlesque the more serious style of opera.

Operti, Albert (Jasper Ludwig Roccabigliera), an Italian artist; born in Turin, Italy, March 17, 1852; was educated in Great Britain; graduated at the Portsmouth Naval School, England, entered the British naval marine service, but resigned in 1868. He studied art and sculpture; became scenic artist for several New York theaters; made two voyages to the Arctic regions with Lieut. Robt. E. Peary, and took the first casts of North Greenland Eskimos ever made, for the American Museum of Natural History, New York. He painted a number of historical pictures, among them "Farthest North"; "Rescue of the Greeley Party," etc.

OPHICLEIDE.

Ophicleide, a wind instrument of metal, invented to supersede the serpent in the orchestra and in military bands.

Ophidia, in zoölogy, snakes; an order of the class Reptilia, which is placed by Professor Huxley in his divi-

sion Sauropsida. The body is always cylindrical and without a bony exoskeleton. Hooked conical teeth are always present, anchylosed with the jaw. The order is preëminently tropical.

Ophir, an ancient country celebrated for gold. The ships of Solomon and of Hiram, King of Tyre, brought 450 talents of gold to Jerusalem, 1000 B. C. Jehoshaphat built ships at Tarshish to go to Ophir for gold, about 913 B. C. Its position has not been ascertained, and Arabia, India, and Africa are contended for by different authorities. Josephus considers Malacca to be Ophir.

Opium, in chemistry, the dried juice obtained from the poppy, extensively cultivated in Asia Minor, Egypt, and India. Opium is a complex substance. In large doses the sleep becomes coma, and death ensues. It is given to allay pain and spasm.

Opium Traffic, in China, India, Turkey, and other parts of the East, and, to a small extent, in the West, opium is used as a narcotic drug. The great source whence China has always derived its opium has been India. where, since 1793, the drug has been a government monopoly. The trade, which was conducted in clippers, was contraband, the Chinese government having in 1796 prohibited the importation of opium. In March, 1839, the Chinese authorities enforced the law, forbade all foreigners to quit Canton, and ordered them to deliver up the opium in their possession, which was burnt. War with Great Britain resulted, which ended in the defeat of the Chinese, who were obliged to pay indemnity for the opium. They have since been compelled to admit it, and the Indian revenue derivable from its growth has risen to about $45 000.000 annually. Forcing this life-sapping drug on the Chinese is regarded as one of the strongest proofs of British selfishness and cupidity in dealing with weaker nations.

Opossum, the popular name for the pouched mammals which have a geographical range from the United States to Patagonia. They vary from the size of a mouse to that of a large cat, and have long noses, ears, and (generally) naked prehensile tails. The Virginian opossum, common over all temperate America, is the best-known of the family, and is found even in towns, where it acts as a scavenger by night. The crab-eating opossum inhabits Central and tropical South America.

WATER OPOSSUM.

Optical Illusion. An object appears large or small, near or distant, according as the rays from its opposite borders meeting at the eye form a large or a small angle; when the angle is large, the object is either large or near; when small, the object must be small or distant. Experience alone enables us to decide whether an object of large apparent size is so on account of its real size, or of its proximity; and our decision is arrived at by a comparison of the object in position with other common objects, which may chance to be near it, and of which we have by experience come to form a correct idea. But when all means for comparison are removed our judgment is at fault. Similarly, we erroneously infer spherical solids at a distance to be flat disks; and, by reason of irradiation in the eye, the sun appears larger than it would if illumined by a fainter light.

Other illusions arise from a disordered state of the organs of vision: the seeing of things double or movable, or of a color different from the true one; the appearance as of insects, crawling over a body at which the eye is directed, etc.

Optimism, in general, the tendency to take the most hopeful view of matters in general; the belief that the world is growing better.

Opuntia, Indian fig. The common opuntia is indigenous in tropical

America, Bermuda, etc., whence it has been introduced into Southern Europe.

Orache, a genus of plants, having male and female flowers on the same plant. The species are numerous and widely spread over the maritime or saline parts of the earth, scarcely any species except the common orache being ever found inland or away from saline influence.

ORANG OUTANG.

Oracle, in anthropology, oracles are of high antiquity. They existed among the Egyptians, and the poetry of the Greeks and the Romans is full of allusion to them. The Hebrews might lawfully, by the high priest, consult the Urim and Thummim, but they also illicitly sought responses from teraphim, and from the gods of surrounding nations. The responses were supposed to be given by a supernatural afflatus, either through a person, as at Delphi and Cumæ, or through some object, as in the rustling of the sacred grove at Dodona. But in every case there is present the idea of a power more than human taking possession of a person or thing, and making that person or thing the vehicle of the response.

Orang Outang, in zoölogy, the Mias of the Dyaks; also known as the "wild man of the wood." It is a dull, slothful animal, but possessed of great strength. These animals are now confined to the swampy forests of Sumatra and Borneo. Their height has been variously stated, but we have not the least reliable evidence of the existence of orangs in Borneo more than four feet two inches high. The legs are very short, the arms are disproportionately long, reaching to the ankle when the animal is placed in an erect position. The males have a longish beard, and they sometimes develop warty protuberances on each side of the face. The resemblance to man in appearance is greatest in the females and in young animals. The head of a baby orang is not very different from that of an average child; but in the adult the muzzle is as well-marked a feature as in the Carnivora. It never walks erect, unless when using its hands to support itself by branches overhead, or when attacked.

Orange. The orange is a native of India, and by some botanists is believed to be only a variety of the citron. It was introduced into the S. of Europe about the 12th century, having been brought into Arabia about three centuries earlier. It lives about 600 years. Of late years much attention has been paid to orange culture in the United States. In Florida and Southern California vast orange plantations are providing immense crops.

Orangeman, a member of an association of Irish Protestants. They have passwords and grips, and there is an initiatory ceremony. They became an organized body in 1795, but the system existed much earlier. They claim to do honor to the memory of William III. They are numerous in the United States, and very strong in Canada.

Orange River Colony, formerly the Orange Free State, a British colony in South Africa; area estimated at 48,326 square miles, divided into 19 districts; pop. 207,503, of whom 77,716 are whites. Capital, Bloemfontein. Lying about 5,000 feet above the sea-level, the country, chiefly vast undulating plains, is cold in winter, with violent thunder storms and long droughts in summer. Diamonds and other precious stones have been found in paying quantities, rich coal mines exist, and the State is said to abound in other mineral wealth. Gold was discovered in 1887. The Dutch Reformed Church is the dominant religion, and a Dutch dialect the language of the country.

The great discovery of diamonds on the banks of the Vaal river, in May, 1870, led to conflicting claims by the Orange Free State and the Transvaal Republic but in October, 1871, the British annexed the disputed territory. In the summer of 1899, the relations becoming strained between the South African Republic and the British government, the Orange Free State declared its intention of supporting the latter in the event of war. After the defeat of the Boer forces, a military governor was appointed over the Orange Free State. Its annexation to the British empire was formally proclaimed at Bloemfontein, May 28, 1900. On Sept. 5, Lord Roberts issued a proclamation defining the policy of the British government in regard to the conquered State.

Oratorio, a kind of musical drama, consisting of airs, recitations, duets, trios, choruses, etc. The text is usually derived from some Scriptural subject; as, for instance, that of the "Messiah," the "Creation," and "Elijah."

Orcagna, Andrea, a corruption of L'Arcagnola, one of the greatest of the early Italian painters; born in

Florence, Italy, about 1316; combined in his works the severity and grandeur of Giotto, with the softness and tenderness of Simone and the Lorenzetti. He was great also as a sculptor and architect. He died in Florence, about 1376.

Orchard, an inclosure devoted to the culture of fruit trees, especially the apple, the pear, the plum, the peach, and the cherry. The chief fruit-growing States are New York, Ohio, Michigan, Illinois, Pennsylvania, Delaware, New Jersey, Maryland, Indiana and California.

Orchestra, or **Orchester,** in Greek and Roman theaters, the semicircular area, included by the straight line which bounded the stage in front of the first row of the ascending steps. In modern theaters, etc.: (1) The place where the band or band and chorus, are placed in modern concert-rooms, theaters, etc. (2) The collection of instruments of varied compass and quality of tone which constitutes a full band.

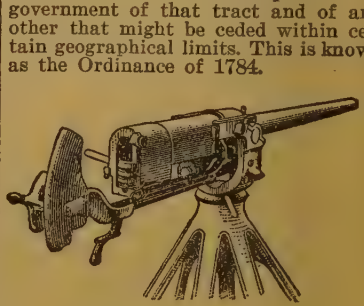
Orchidaceæ, orchids; the typical order of the alliance Orchidales. It consists of perennial herbs or shrubs, with fibrous, fasciculated, fleshy, or tuberlike roots. All the species are terrestrial in temperate latitudes; in the tropics many are epiphytes, growing on trees. They are remarkable for their irregular flowers, often very beautiful, sometimes very fragrant. Found in nearly all climates. Known genera 400; species 3,000.

Ord, Edward Otho Cresap, an American military officer; born in Cumberland, Md., Oct. 18, 1818; was graduated at the United States Military Academy in 1839; served in the Florida war till 1842, and thence until 1861 was on frontier duty. In September of the latter year he was appointed Brigadier-General of volunteers, and commanded a brigade of the Pennsylvania Reserves. Throughout the Civil War he served with distinction; was present at the surrender of Richmond and was later given the Department of the Ohio. In September, 1866, he was mustered out of the volunteer service with the rank of Major-General. In 1866–1880 he was in command of various departments, and was retired in 1881 with the rank of Major-General, U. S. A. He died in Havana, July 22, 1883.

Ordeal, the judicium Dei of mediæval writers; the practice of referring disputed questions to supernatural decision, in the belief that the Deity would work a miracle rather than the innocent should suffer or the guilty escape punishment. As elsewhere noted it was permitted by the laws of England, in the form of judicial combat, until the early part of the nineteenth century.

Ordeal Tree, of Guinea, and Madagascar. The fruit, which is poisonous, is given in some kind of broth to the accused person. If he recover, he is deemed innocent; if he die, this is to be held to prove his guilt.

Ordinance of 1784. At the close of the American Revolutionary War, it was regarded as unjust that the States having unsettled Western possessions should hold the same solely for their own benefit, and it was agreed that these should be ceded to the general government. In 1784 Jefferson presented to the Continental Congress, at Philadelphia, Virginia's cession of all her territory N. W. of the Ohio, and submitted a plan for the government of that tract and of any other that might be ceded within certain geographical limits. This is known as the Ordinance of 1784.



DRIGGS-SHROEDER 6-POUNDER.

Ordinance of 1787. An ordinance for the government of the territory of the United States N. W. of the Ohio river; passed by the last Continental Congress in New York, in 1787. It provided among other things for the immediate abolition of slavery in the territory and for the return of fugitive slaves to their masters.

Ordination. The solemn forms which attend the elevation of a candidate to religious rank and authority in any denomination. In the United States Protestant churches have each their own method of ordination, which is rather a service of consecration than a sacrament imparting special power. The ordination in the Episcopal Church is patterned largely after that of the English Episcopal Church. Ordination in the Roman Catholic Church is attended by elaborate ceremonies.

Ordnance, military guns of the larger class; artillery; also called rifles, guns, or cannon.

NOISELESS AND FLASHLESS GUN.

Ordnance, Department of, in the United States, a department attached to the War Department, and controlled by a Chief of Ordnance, with a large force of officers and clerks at an annual cost in salaries of $175,000.

Ore, substances found in the earth from which metals are obtained by various processes, but chiefly by roasting and smelting. Generally speaking, however, all mineral substances containing metals, combined or free, are called ores. They are found in veins or lodes, in bedded masses, and also disseminated in rocks of all ages. In the latter, the ores of iron and manganese are the most abundant, and often found in beds of large extent. Some ores, as well as native metals, are also found in alluvial deposits; gold, platinum, etc., in those known as placers. Placer products have been derived from the degradation and wearing away of older rocks, the minerals having been washed out and redeposited by the agency of water. Were it not for the fact that much of the gold and silver bearing ores found in the Rocky Mountains is of too low a grade to work profitably, the product of those metals would have been much greater from many of the Western States, as millions of tons of low grade ores now encumber the dumps of the mines. Edison in 1896 perfected an electrical machine for treating low grade "magnetic" ore.

Oregon, a State in the Pacific Division of the North American Union; admitted to the Union, Feb. 14, 1859; capital, Salem; number of counties, 33; area, 94,560 square miles; pop. (1900) 413,536.

The surface of the State is mountainous, three ranges dividing it from N. to S.; the Coast Range from 10 to 30 miles from the ocean; the Cascade Mountains, from 110 to 150 miles inland; and the Blue Mountains in the E. The Coast Range has an extreme altitude of 4,000 feet, and is covered with dense forests. The Cascade Mountains, a continuation of the Sierra Nevadas, have an extreme height of 7,000 feet, with several peaks rising 2,000 to 5,000 feet higher. Mount Hood reaches an altitude of 11,500 feet, McLoughlin, 11,000 feet; and Jefferson, 10,500 feet. The Cascades are heavily timbered to the snow line. Four transverse ranges connect the Coast Range with the Cascades; the Calpooia, Umpqua, Rouge river and Siskigon Mountains. The Willamette river valley, lying between the Coast Range and Cascade Mountains, and the Columbia river and California spur, is 150 miles long, from 30 to 70 miles wide, and is extremely fertile. Eastern Oregon, embracing two-thirds of the State, is a high table-land, with little rainfall, and sparsely populated. There are fertile valleys along the rivers and lakes in the S., and in the Blue Mountains. The rivers flowing into the ocean are the Roque, Coquille, Umpqua, Sinslaw, Alsace, Yaquina, Nestuca, and Nehalem; those emptying into the Columbia, Lewis and Clarke, Clatskaine, Youngs, Sandy, Willamette, Des Chutes, Hood, Umatilla, and John Day; and those feeding the Snake river, the Owybee, Malbeur, Burnt, Powder, and Grande Ronde. The principal lakes are, Kalamath, Goose, Warner, Salt, Christmas, Albery, Summer, Silver, Henry, and

Malbeur. Crater Lake in the Cascades, 8,000 feet above sea-level, is the crater of an extinct volcano, 10 miles in circumference, and surrounded by bluffs 2,000 feet high. It is the deepest body of fresh water in America. The coast line of Oregon is very abrupt and rocky and but little indented, the mouth of the Columbia river being the best harbor. There are other harbors at Port Orchard, Roque river, Coos Bay, Tillamook Bay, and Yaquina Bay.

In 1900 the principal mineral productions included gold, silver, and coal. The building stones were granite, sandstone, and limestone. The production of mineral waters was 49,300 gallons.

The soil is of volcanic origin, with alluvial deposits in the valleys, and is extremely fertile. In the central and S. E. portions of the State the rainfall is very light and the farming depends largely upon irrigation. Grapes, prunes and other fruits thrive abundantly, and the wool growing industry is very large. The principal farm crops are wheat, corn, oats, hay, potatoes, and barley.

The principal industries include railroad cars and shop construction, fish canning, flouring mills, lumber and timber, printing and publishing, shipbuilding, slaughtering, meat packing, and the manufacture of woolen goods.

At the end of the school year 1899–1900 the children of school census age numbered 111,490; the enrollment in public schools, 89,405; and the average daily attendance, 64,411. There were 2,070 public school buildings, public school property valued at $2,984,443, and 3,742 teachers. For higher education there were 14 public high schools, 19 private secondary schools, 4 private normal schools and 9 universities and colleges for men and for both sexes. The colleges include the University of Oregon, at Eugene; Pacific University at Forest Grove; Willamette University, at Salem; and Portland University at University Park.

The strongest denominations in the State are the Roman Catholic; Methodist Episcopal; Regular Baptist; Disciples of Christ; Presbyterian; Congregational; Methodist Episcopal, South; Protestant Episcopal; and United Brethren.

The governor is elected for a term of four years and receives a salary of $1,500 per annum. Legislative sessions are held biennially, and are limited to 40 days each. The Legislature has 30 members in the Senate, and 60 in the House, each of whom receives $3.00 per day, and mileage. There are 2 Representatives in Congress. The State has no public debt.

The name of Oregon was long applied to all the territory claimed by the United States on the Pacific coast, extending from lat. 42° to 54° 40′ N. By the treaty of 1846, a boundary line was fixed between Great Britain and the United States at lat. 49°. The discovery of the Columbia river, in 1792, was succeeded by an exploration under Captains Lewis and Clarke, 1804–1805. In 1808 the Missouri Fur Company established trading-posts in the country; and, in 1811, the American Fur Company founded a settlement at the mouth of the Columbia, and named it Astoria. In 1839, the emigration of Americans commenced overland by way of the South Pass, and the territory continued to receive settlers yearly till 1848, when the California "gold-fever" attracted a large quota of her citizens away. In 1850, however, the land-donation law, passed by Congress, had the effect of registering 8,000 citizens in Oregon, which was formally organized as a Territory, March 3, 1849. On March 2, 1853, Washington Territory was formed out of the N. half of Oregon; Nov. 5, 1857, a State constitution was adopted; and Feb. 14, 1859, the State was admitted into the Union by Act of Congress under the constitution previously ratified. From 1845 till 1855, a desultory warfare was kept up with the Indian aborigines, and a resumption of the same occurred in 1858, and again in 1872–1873.

Oregon, The, a first-class, twin-screw, steel battleship of the United States navy. In the early part of 1898 the "Oregon" made a memorable journey. She was stationed at San Francisco, on the Pacific Coast, and was ordered to Key West, Florida, to join the North Atlantic Squadron in the West Indies. The distance covered was 13,587 miles and the time consumed, including stoppages to coal, etc., was 66 days. The "Oregon" left

San Francisco March 19, before the war with Spain began, and reached Key West on the morning of May 26, fully prepared to join the squadron of Admiral Sampson and take part, as she did later on, in the destruction of Admiral Cervera's ships at Santiago de Cuba. During the voyage the "Oregon" was commanded by Capt. Charles E. Clark. On June 23, 1900, the "Oregon," on her trip from Hong Kong to Taku, ran ashore on the Pinnacle Rock, 50 miles N. W. of Che-Foo. She was floated off, dry docked, and returned to active service some months later.

Oregon, University of, a coeducational, non-sectarian institution in Eugene, Ore., founded in 1872.

O'Reilly, John Boyle, an Irish American poet; born at Dowth Castle, County Meath, Ireland, June 28, 1844. In 1863 he enlisted in the 10th Hussars, in Ireland, for the avowed purpose of spreading revolutionary doctrines among the soldiers. For this he was arrested, tried for treason and sent for 20 years penal servitude in Australia. The following year (1869) he escaped to America, going first to New York and afterward to Boston. In the latter city he found work on "The Pilot" (of which he subsequently became editor and principal owner). He died in Hull, Mass., Aug. 10, 1890.

Orellana, Francisco de, a Spanish explorer; born in Truxillo, Spain, about 1490, accompanied Pizarro to Peru in 1531. Ambitious of adventure, he set out to explore the continent of South America, E. from Peru; passed down a branch of the Amazon into that vast river, and thence to the sea; thus being the first European navigator of the Amazon. His accounts of the marvelous country he had crossed induced Charles V. to authorize him to settle colonies there, and he returned for that purpose in 1549, but died soon after his arrival.

Orfila, Mateo Jose Bonaventura, a French physician of Spanish parentage, and the founder of the science of toxicology; born in Mahon, Minorca, 1787. His "Treatise on Legal Medicine," in four volumes, is the greatest work on medical jurisprudence extant. He died in 1853.

Origen, a father of the Church, and one of the most learned ecclesiastical writers; was born in Alexandria, 185 A. D., of Christian parents, who early instructed him in religious knowledge and in the sciences. At the age of 17 he lost his father, who was beheaded for his profession of Christianity. Origen had recourse to the teaching of grammar for the support of himself, his mother, and brothers; but this occupation he relinquished on being appointed catechist, or head of the Christian school of Alexandria. In this situation, he distinguished himself by the austerity of his life. From Alexandria he went to Rome, where he began his famous "Hexapla," an edition of the Hebrew Bible with five Greek versions of it. At the command of his bishop he returned to Alexandria, and was ordained. Soon after this, he began his "Commentaries on the Scriptures." Origen is supposed to have died in Tyre about the year 254.

Original Sin, in Protestant theology, sin for which each individual is held to be responsible before he has committed any actual transgression. In Roman theology, original sin is defined to be "that guilt and stain of sin which we inherit from Adam, who was the origin and head of all mankind."

Orinoco, one of the great rivers of South America, has its origin on the slopes of the Sierra Parima, in the extreme S. E. of Venezuela; its exact sources were only discovered in 1886 by Chaffanjon. It flows at first W. by N., a mountain-stream. A little below Esmeralda it divides and sends off to the S. an arm, the Cassiquiare, which, after a course of 180 miles, enters the Rio Negro, a tributary of the Amazon. The other branch on reaching San Fernando is met by the strong current of the Guaviare; the united stream then turns due N., and, after passing over the magnificent cataracts of Maypures and Atures, and picking up the Meta on the left, meets the Apure, which likewise strikes it from the left. Below the confluence with the Apure the Orinoco turns E. and traverses the llanos of Venezuela, its waters, with an average breadth of 4 miles, being augmented from the right by the Caura and the Caroni. About 120 miles from the Atlantic,

into which it rolls its milk-white flood, its delta (8,500 square miles) begins. Of the numerous mouths which reach the ocean over 165 miles of coast line only seven are navigable. The waterway principally used by ocean-going vessels, which penetrate up to Ciudad Bolivar (Angostura), a distance of 245 miles, is the Boca de Navios, varying in width from 3¾ to 23 miles. The total length of the river is some 1,550 miles, of which 900, up to the cataracts of Atures, are navigable, besides a farther stretch of 500 miles above the cataracts of Maypures; area of drainage basin, 368,600 square miles. Most of the larger affluents are also navigable for considerable distances.

Oriole, a well-known American bird, of which there are varieties in Europe, Asia, and Africa.

ORIOLE.

Orion, in mythology, a celebrated Greek giant and hero. In astronomy, one of the ancient constellations found by Ptolemy. The equinoctial passes nearly through its center, and it is situated in the Southern Hemisphere with respect to the ecliptic.

Orissa, a maritime province of Hindustan; on the Bay of Bengal; between Bardwan and the Madras presidency, forming a division or commissionership under the jurisdiction of the lieutenant-governor of Bengal. It has an area of 9,853 square miles.

Orkney Islands, a group of 90 Scotch islands, islets, and skerries, of which only 28 are inhabited, and which have an aggregate area of 376 square miles, the largest being Pomona or Mainland, Hoy, Sanday, Westray, South Ronaldshay, Rousay, Stronsay, Eday, Shapinshay, Burray, etc.

Orleans, a city of France, formerly of the department of the Loiret; on the Loire; 68 miles S. W. of Paris. In 1426 the city sustained a siege against the English, and was relieved by the Maid of Orleans (Joan of Arc), whose statue in bronze stands in a public square. Pop. about 67,000.

Orleans, Louis Albert Philippe, Count of Paris; born in the Tuileries, Paris, France, Aug. 24, 1838; son of the Duke of Orleans; was educated at Claremont, England. In 1861 he and his brother, the Duke of Chartres, came to the United States and served with distinction on General McClellan's staff till June, 1862. After the establishment of the republic in France he lived in Paris, till the expulsion bill of 1886 drove him into exile to England. Among his publications, his "History of the Civil War in America," is highly esteemed by historians and military critics. He died in London, England, Sept. 8, 1894.

Orleans, Louis Philippe Joseph, Duke of, a great-grandson of the of the regent Philippe, Duke of Orleans; born in St. Cloud, France, April 13, 1747; married in 1769 the daughter of the Duke of Penthievre. His opposition to the court began in 1771, and he became the rallying point of its enemies. In 1787 he was exiled for the part he took in the Assembly of Notables; in 1789 he was one of the nobles who joined the Tiers Etat (Third Estate); in 1792 he went over to the revolutionary party without reserve, took the name of Philippe Egalite ("Philip Equality"), and voted for the death of Louis XVI. It did not save him from being arrested as a Bourbon, condemned and beheaded, in Paris, Nov. 6, 1793.

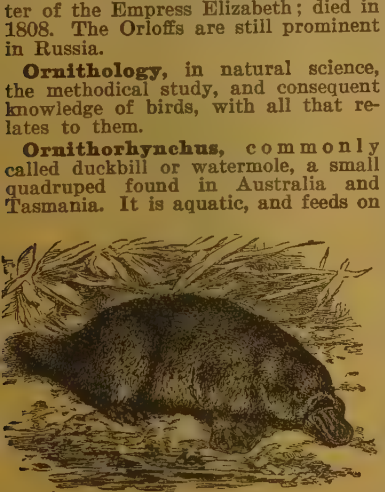
Orleans, Louis Philippe Robert, Duke of; born in Twickenham, England, Feb. 6, 1869; son of the Count of Paris, and heir to the nonexistent French throne; was educated in France, but banished with the other princes in 1886. In 1890 he returned and demanded the right of enlisting in the army, but was again imprisoned

and banished. On the death of his father, in 1894, he became the head of the royal house. He died Aug. 9, 1901.

Orloff, a celebrated Russian family, founded under Peter the Great by Ivan Orel, one of the Strelitz who, when that body was destroyed, saved his life by his cool courage, and became an officer and a noble. The most celebrated of his descendants were: Gregory, a Russian general and political intriguer, who greatly promoted the elevation of his mistress, Catherine II., to the throne. Being disappointed in his hope of sharing the crown with her, and declining a private marriage, he was supplanted by a new favorite, and died insane in 1783. He had one son by the empress, named Bobrinski. Alexis, his brother, and fellow conspirator, was a man of gigantic stature and strength, and is said to have strangled the Emperor Peter with his own hands. He was a favorite of Catherine, and was married to the Princess Tarakanoff, daughter of the Empress Elizabeth; died in 1808. The Orloffs are still prominent in Russia.

Ornithology, in natural science, the methodical study, and consequent knowledge of birds, with all that relates to them.

Ornithorhynchus, commonly called duckbill or watermole, a small quadruped found in Australia and Tasmania. It is aquatic, and feeds on



DUCKBILL.

water insects, small mollusca, and worms. The ornithorhynchus, though mammalian in its general structure, is oviparous, laying two eggs at a time.

Orphan Asylum, or **Orphanage,** an establishment in which orphans are provided for and educated. In all well regulated states the duty of taking care of destitute orphans was recognized at an early age, and it appears that the cities of Thebes, Athens, and Rome had establishments in which orphaned, deserted, and illegitimate children were supported and educated at the public expense. In the Middle Ages such asylums were numerous and generally under the direction of the clergy. In recent times public orphanages have been substituted or supplemented by the farming out system, that is, the children are brought up in private families willing to undertake their charge. Orphan asylums, as conducted in the United States, are supported as private institutions, assisted by legislative appropriation. They are fostered also by the religious denominations.

Orpheus, in Greek mythology, a celebrated mythic bard. Together with his brother Linus he was regarded as having introduced the arts of civilized life among wild and untutored hordes, and by the power of song to have charmed savage beasts, and to have awakened even inanimate nature into life and rapture.

Orr, Hugh, a Scotch-American inventor; born in Lochwinoch, Scotland, Jan. 13, 1717; came to America in 1737, and settled in Bridgewater, Mass., where he built a factory for the manufacture of scythes and axes, and set up the first trip-hammer in that section. In 1753 he invented a machine for dressing flax. He was an ardent patriot in the Revolutionary War and erected a foundry where he cast cannon and shot for the army. He died in Bridgewater, Mass., Dec. 6, 1798.

Orris Root, the rhizome of Iris florentina and I. germanica, sometimes called violet-scented orris root.

Orsini, one of the most illustrious and powerful families of Italy. It became known about the 11th century, and had already acquired high rank and extensive possessions in the Papal States when one of its members, Giovanni Gaetano, was raised to the pontificate under the title of Nicholas III. (1277–1280). The feud between

the Orsini and Colonna families is celebrated in history; it commenced toward the close of the 13th century, and is distinguished for bitterness, unscrupulousness, and violence, assassination being not infrequently resorted to. Vincenzo Marco Orsini (Benedict XIII.) succeeded Innocent XIII. as Pope in 1724.

Orsini, Felice, an Italian revolutionist; born in Meldda, Italy, in 1819. In 1838 he was sent to study law at the University of Bologna, and joined the Society of Young Italy, formed in 1831 by Mazzini. In 1843 he took an active part in an insurrection, and being apprehended along with his father, also an ardent patriot, was sentenced to the galleys for life. By the amnesty of July 16, 1846, he obtained his freedom, but soon after he again engaged in intrigues under Mazzini, and took prominent parts in the stirring events of the following years. In 1855 he was condemned to death, but the sentence was not carried out, and in 1856 he escaped to London. He planned the assassination of Napoleon III., in concert with three Italian refugees, Rudio, Gomez, and Pieri. The attempt was made on Jan. 14, 1858, but was unsuccessful. Pieri and Orsini were executed March 13, 1858.

Orthodox, holding the right or true faith; sound in opinion or doctrine; especially in religious opinions or doctrines; opposed to heterodox and heretical.

Orthoepy, the art of uttering words correctly; correct speech or pronunciation.

Orthography, the art, practice, or habit of spelling words correctly according to the recognized usage. Also that part of grammar which deals with the nature and properties of letters, and with the proper representation by letters of the words of a spoken language.

Ortolan, a bird, native of continental Europe and Western Asia, migrating S. in winter, returning about the end of April or May.

Orton, James, an American clergyman, naturalist, and traveler; born in Seneca Falls, N. Y., April 21, 1830. He conducted exploring expeditions to South America. He died on Lake Titicaca, Peru, Sept. 25, 1877.

Orton, Jason Rockwood, an American poet and miscellaneous writer; born in Hamilton, N. Y., in 1806; educated as a physician, but abandoned the practice of medicine in 1850, and devoted himself to literature. He died in Brooklyn, N. Y., Feb. 13, 1867.

Osage Orange, a tree native of North America; attains a height varying, according to soil and situation, from 20 to 60 feet. It is of the same genus with fustic, and its wood, which is bright yellow, probably might be used for dyeing. The wood is fine grained and very elastic, and takes a high polish; it is much used for fence-posts, sleepers, paving-blocks, etc. The tree is largely employed in the United States, especially in the West, as a hedge plant. Its fruit is about the size of a large orange, has a tuberculated surface of a golden color, and is filled internally with radiating, somewhat woody fibres, and with a yellow milky juice, the odor of which is generally disliked, so that the fruit is seldom eaten.

Osages, a tribe of North American Indians, about 1,500 in number, living on a reservation in the N. part of the Indian Territory. It is said to be the richest community in the world. They own nearly 1,500,000 acres of land, worth not less than $10 an acre. Each Osage Indian, man, woman and child, is worth at least $15,000, and each family on a division would possess on an average $60,000. The property is held and owned in common, and all their industries are nationalized.

Osaka or **Ozaka,** an important city of Central Japan, at the head of the gulf of the same name, and at the mouth of the Yodo river, which issues from Lake Biwa. The city covers an area of about 8 square miles and is intersected with canals. Its fine castle, the stones of whose walls are of astonishing size, was constructed in 1583, and the palace, built afterward in its precincts and destroyed in 1868, was perhaps the most magnificent structure in Japan. Pop. 821,235.

Osborn, Bradley S., an American naval officer; born in Rye, N. Y., Aug. 16, 1828; educated in New York and Connecticut; went to sea when 10 years old; served as coxswain in the Chinese navy, as commander in the Argentine, as admiral in the Mexican,

and as signal officer in the United States navy during the Civil War. During the Spanish-American War he was a volunteer naval scout, and was the first to discover Cervera's fleet off the island of Curacoa. In 1900 he was flag officer commanding the United States Veteran Navy, with rank of commodore.

Osborn, Henry Stafford, an American educator; born in Philadelphia, Pa., Aug. 17, 1823; was graduated at the University of Pennsylvania in 1841, and at the Union Theological Seminary in 1846. He held several pastorates; was Professor of Mining and Metallurgy in Lafayette College in 1866–1870; then held the same chair in Miami University till 1873, when he devoted himself to elaborating his surveys of noted places in Biblical history, and preparing a set of maps of the Holy Land that have become standards. He died in New York city, Feb. 2, 1894.

Osborn, Thomas Ogden, an American soldier and diplomatist; born in Jersey, O., in 1832; was graduated at the Ohio State University in 1854; read law with Gen. Lew Wallace, and began practice in Chicago, Ill., in 1859. He recruited and became colonel of the 39th Illinois Volunteers; was appointed to command four regiments in the attack on Fort Sumter; and was commissioned a Major-General of volunteers. After the war he resumed practice; was elected treasurer of Cook co., Ill., appointed a manager of the National Soldiers' Home; was a member of the commission to settle disputed claims between the United States and Mexico; and was minister to the Argentine Republic in 1873–1885.

Osborne (Samuel), Duffield, an American novelist; born on Long Island, N. Y., in 1858.

Oscar I., Joseph Francois Bernadotte, King of Sweden and Norway, son of Bernadotte (Charles XIV.); born in Paris, France, July 4, 1799. In 1823 he married Josephine, eldest daughter of Prince Eugene Beauharnais. During the reign of his father he was three times viceroy of Norway. He acceded to the throne in 1844. He took little part in foreign politics. He resigned in favor of his eldest son in 1857. He died July 8, 1859.

Oscar II., King of Sweden and Norway; born Jan. 21, 1829. He is grandson of Napoleon I.'s famous general, Marshal Bernadotte, the first king of the new independent kingdom of Norway. He ascended the throne in 1872, in succession to his brother, Charles XV. He married, in 1857, the Princess Sophia of Nassau, by whom he had four sons.

Osceola, a chief of the Seminole Indians; born in Florida about 1813; was the son of an Indian trader called Powell. In 1835, while on a visit to Fort King, his wife was claimed as a slave, as being the daughter of a fugitive slave woman, and carried off as such. Osceola resolved upon vengeance, and some months afterward, finding General Thompson outside of the fort, killed him and six other whites in his company, Dec. 28, 1835. On Oct. 23, 1837, while holding a conference under a flag of truce with General Jessup, near St. Augustine, he was seized and kept in confinement at Fort Moultrie till his death, in 1838.

Osgood, Frances Sargent (Locke), an American poet; born in Boston, June 18, 1811. She died in Hingham, Mass., May 12, 1850.

Osgood, Samuel, an American clergyman and author; born in Charlestown, Mass., April 30, 1812. He was the pastor of a Unitarian church in New York city from 1849 to 1869, when he resigned and joined the Episcopal Church. He died in New York city, April 14, 1880.

Osiander, Andreas, a German reformer; born in Gunzenhausen, near Nuremberg, Dec. 19, 1498. Educated at Ingolstadt, he declared himself an adherent of Luther, and became a preacher at Nuremberg (1522), persuaded that city to declare itself Lutheran, took part in the conference at Marburg (1529), and was present at the diet of Augsburg (1530), and at the signing of the Schmalkald articles (1537). In 1548 he was deprived of his office as preacher, but was immediately afterward invited by Albert, Duke of Prussia, to become Professor of Theology in the newly established University of Konigsberg. He was hardly settled there when he became

entangled in theological strife. Osiander's death in the midst of this fierce polemical war, Oct. 17, 1552, did not check it; the battle was continued by his followers. Osiander's son Lukas (1534–1604) and his grandson Lukas (1571–1638) won reputations as theologians.

Osier, a willow. Cultivated in beds, its long pliable shoots being used for wicker-work basket making. The purple osier is wild on river banks and cultivated in osier beds.

Osiris, in Egyptian mythology, one of the chief Egyptian divinities, the brother and husband of Isis, and, together with her, the greatest benefactor of Egypt, into which he introduced a knowledge of religion, laws and the arts and sciences. His principal office, as an Egyptian deity, was to judge the dead, and to rule over that kingdom into which the souls of the good were admitted to eternal felicity. He was that attribute of the deity which signified the divine goodness; and as an avatar, or manifestation of the divinity on earth, he was superior to any even of the Egyptian gods.

Osman Digna, a Sudanese slave merchant and lieutenant to the Mahdi; born in Suakin about 1830, of Turkish descent on his father's side. He proved himself one of the ablest leaders on the Mahdist side, defeating an Egyptian force under Baker Pasha in 1884 near the Red Sea coast of the Sudan. He was defeated soon after by a British force, but not without causing severe losses. In 1897 he was engaged in aiding the Khalifa and his Dervish forces in opposing the Anglo-Egyptian expedition up the Nile. He has been little heard of lately.

Osman Pasha, a Turkish general; born in Tokat, Asiatic Turkey, in 1832; entered the Turkish army in 1853; fought with distinction in the Crimean War, the Syrian rebellion, and the Crete campaign, but his great achievement was the defense of Plevna during the Russo-Turkish War (1877). Afterward he held the office of war minister and several other high posts. In 1885 he was appointed grand marshal of the palace, and in 1897, Commander-in-Chief of the Turkish army in Thessaly. He died in Constantinople, Turkey, April 4, 1900.

Osprey, or **Ospray,** the fish hawk, bald buzzard, or fishing eagle. A bird of prey, of almost world wide distribution, subsisting on fish. Ospreys nest usually near the seashore, and, unlike rapacious birds generally, are in some

OSPREY.

measure gregarious. In North America large communities of ospreys are found, and the purple grakle often builds close by. The osprey lays three or four eggs of a rich red to buffy white, with large reddish and brown markings.

Ossian, a mythical Gaelic hero and bard, is said to have lived in the 3d century, and to have been the son of Fingal, a Caledonian hero, whom he accompanied in various military expeditions. In 1760–63 James Macpherson published two epics, which he claimed to be translations from Ossian's poems. The general opinion is

that Macpherson interpreted the spirit, rather than the language of the ancient bard, and created a work which certainly deserves immortality.

Ossification, the formation of bone. In the growth of the skeleton of man and the higher animals, this process goes on naturally, and it occurs in the reproduction of new bones after the destruction or loss of old ones. Ossification also occurs as an unnatural or morbid process, and is observed in several tissues of the body. Ossification of the movable joints never occurs.

Ossoli, Marchioness d', Sarah Margaret Fuller, best known as Margaret Fuller, an American writer; born in Cambridgeport, Mass., May 23, 1810. In 1846, at Rome, she married the Marquis d'Ossoli. The pair were on their way to New York when their ship was wrecked and both were lost July 19, 1850.

Ostend Manifesto, The, in United States history, a dispatch forwarded to the United States government in 1854 by its ministers at the courts of Great Britain, France, and Spain, who had met in the city of Ostend, by the government's request, to discuss the Cuban question. The dispatch declared that, if Spain would not sell Cuba, self-preservation required the United States to take the island by force, and prevent it from being Africanized like Haiti. Nothing, however, came of the "manifesto."

Osteopathy, a system of healing, In spite of the apparent etymology of the name, the system does not confine itself to the treatment of bone diseases, but claims to be a general system founded on the principle that "all bodily disorders are the result of mechanical obstruction to the free circulation of vital fluids and forces." No medicine whatever is used and no surgery employed, except in cases where the latter is needed exclusively.

Osterhaus, Peter Joseph, an American military officer; born in Coblentz, Germany, about 1820; emigrated to the United States, and was made a major of Missouri volunteers early in the Civil War; commanded a brigade under Fremont, and a division in the battle of Missionary Ridge. He was promoted to Major-General of volunteers in 1864. After the war he was appointed United States consul at Lyons, France, and finally returned to Germany.

Ostrich, the largest of all living birds, standing from six to eight feet in height, and has been known from remote antiquity; Xenophon mentions it in the "Anabasis" as found in the plains of Artemisia, and there are frequent references to it in later Roman literature. Hunters report that the flesh is palatable. The ostrich is hunted and bred for the sake of the quill feathers of the wings and tail, now used by ladies, though formerly

OSTRICH.

ostrich plumes decked the helmets of knights, still later the hats of the cavaliers, and the fashion came in again for a time at the Restoration. The ostrich is a vegetable feeder, but swallows stones, bits of iron, and other hard substances to aid the gizzard in its functions. On ostrich farms newly hatched birds have been observed to pick up little stones before taking any food. The wings are useless for flight, but of so much assistance in running that the bird can outstrip the fleetest

horse. Ostriches are polygamous, the hens lay their eggs in a common nest —a hole scratched in the sand, and the cockbird relieves the hens in the task of incubation, which is aided by the heat of the sun.

Ostrich Farming, the raising of ostriches for their feathers as a commercial commodity. It is carried on in Southern California, South America, Algeria, Egypt and Australia. It was very profitable in the early part of its history as the feathers then brought $500 a pound, one bird sometimes producing $125 worth at a plucking. Many ostrich farms are devoted solely to raising the birds for sale, others are for the purpose of producing the feathers. The first feathers are cut when the bird is about eight months old, and a portion of the quill is left, which soon shrivels up and is easily drawn out. This process of feather cutting is renewed at intervals of seven or eight months.

Oswald, Felix Leopold, an American naturalist; born in Namur, Belgium, Dec. 6, 1845; graduated at Liege in 1864, and became a physician; but later abandoned the practice of medicine, and devoted himself to the study of natural history.

Oswego, Fort, an old French fort, built on the site of the present city of Oswego, N. Y., by Count Frontenac, about 1696. Fort Ontario, however, was built on the opposite side of the Oswego river in 1755, and at once took the precedence. Both forts were the scenes of considerable fighting during the French and Revolutionary Wars, and once in 1814.

Oswego Tea, a name given to several species of herbs, natives of North America, because of the occasional use of an infusion of the dried leaves as a beverage.

Othman, or **Osman,** founder of the Ottoman empire; born in 1259; one of the emirs who, on the destruction of the empire of the Seljukides, became independent chiefs. Joined by other emirs, he invaded the Eastern Empire in 1299, and made himself master of Nicæa, Iconium, and other towns. He took no other title than Emir, but ruled with absolute power, not without justice and moderation. He died at a great age, in 1326.

Otho I., Emperor of Germany, called The Great; born in 923; was the eldest son of Henry the Fowler, and crowned King of Germany in 936, at the age of 14. He carried on war with the Huns, and drove them from the West; made Bohemia his tributary; defeated the Danes, and invaded Bohemia. He then engaged for 10 years in war with the Hungarians, and finally defeated them, Berenger having usurped the title of Emperor of Italy, Otho entered Rome, where he was crowned Emperor by John XII. That pontiff afterward leagued with Berenger, on which Otho caused him to be deposed, and put Leo VIII. in his place, in 963. On the emperor's return to Germany, the Romans revolted and imprisoned Leo; for which Otho again visited Rome, which he besieged and restored Leo. He next turned his arms against Nicephorus, Emperor of the East, whose army he defeated. John Zimisces, the successor of Nicephorus, made peace with Otho, who died in 973.

Otho, King of Greece, 2d son of Louis I., King of Bavaria; born in Salzburg, July 1, 1815. At 17 years of age he was invited by the Greeks to become their monarch, and Otho was accordingly declared King of Greece in January, 1833, and, in June, 1835, on his attaining the age of 20, he assumed the reins of government. After a stormy and inglorious reign of 30 years, Otho abdicated the throne, Oct. 20, 1862, and fled the country. He died in Bamberg, Bavaria, July 26, 1867.

Otho, Marcius Salvius, a Roman emperor; born in Rome A. D. 32. After Nero's death, he attached himself to Galba, but that emperor having adopted Piso as his heir, Otho excited an insurrection, murdered Galba and Piso, and ascended the throne in 69. He was opposed by Vitellius, who was supported by the German army, and in a battle between the two rivals near Bedriacum, Otho was defeated, on which he slew himself, after reigning three months.

Otis, Elisha Graves, an American inventor; born in Halifax, Vt., Aug. 3, 1811. He died in Yonkers, N. Y., April 8, 1861.

Otis, Elwell Stephen, an American military officer; born in Freder-

ck, Md., March 25, 1838; was graduated at Rochester (N. Y.) University in 1858, and began the study of law. He was just entering on practice when the Civil War broke out, and in September, 1862, he entered the volunteer service as captain in the 140th New York Infantry. He served through the Civil War. He was discharged from the volunteer service Jan. 24, 1865, with the brevet rank of Brigadier-General. In 1866 he was appointed lieutenant-colonel of the 22d United States Infantry, and became colonel of the 20th Infantry in 1880. From 1867 to 1881 he served with the army in the West against the Indians. In 1881 he organized the School of Infantry and Cavalry at Fort Leavenworth, Kan., of which he remained in command till 1885. He then went with his regiment, the 20th Infantry, to Fort Assiniboine, Mont., where he was commander of the post. On Oct. 1, 1890, he was detailed for duty as superintendent of the recruiting service, and Nov. 28, 1893, he was promoted to the full rank of Brigadier-General. On Dec. 1 of the same year he was assigned to the command of the Department of the Columbia, with headquarters at Vancouver, and in 1897 was transferred to the Department of Colorado. On May 28, 1898, he was appointed Major-General of volunteers and assigned to duty in command of the Department of the Pacific, and as military governor of the Philippines, which office he held till May 5, 1900. He was a member of the Philippine commission, and on June 16, 1900, was promoted Major-General, U. S. A., and on Oct. 25 was assigned to the Department of the Lakes.

Otis, Harrison Gray, an American statesman, son of James; born in Boston, Mass., Oct. 8, 1765; was member of Congress, 1797–1801, and United States Senator, 1817–1822. He was prominent in the Massachusetts Legislature; took an active part in the Hartford Convention of 1814; and was mayor of Boston in 1829. He died in Boston, Oct. 28, 1848.

Otis, James, an American statesman; born in West Barnstable, Mass., Feb. 5, 1725. Through his efforts the Stamp Act Congress was assembled in 1765. He was the author of a number of political essays and orations. He died in Andover, Mass., May 23, 1783. He had a leading part in animating the American people to a defence of their liberties.

Otomis, a tribe of Mexican Indians, and one of the oldest nations in the mountainous regions of the plateau. They were agriculturists and had some knowledge of the manufacture of cloth and ornaments of gold and copper. During the siege of Mexico they came to the assistance of Cortez (in 1521), and have ever since been nominally in subjection to the whites. They accepted the Catholic faith, but have made little progress in civilization. Their descendants are scattered throughout Central Mexico and number some 200,000.

Ottawa, a city, county seat of Carleton co., Ontario, and capital of the Dominion of Canada; at the confluence of the Ottawa and Rideau rivers on the Rideau canal, and on the Canadian Atlantic, the Canadian Pacific, and other railroads; 126 miles W. of Montreal. The city is built on a succession of bluffs, rising from the river, and culminating in Parliament Hill, upon which stand the government buildings.

The scenery around the city is exceedingly attractive, and is hardly surpassed by that of any other city in Canada. A suspension bridge over the Chaudiere Falls connects the provinces of Ontario and Quebec. The government buildings are imposing structures, of Gothic architecture, costing about $4,000,000. They are built around a quadrangle, and with the grounds belonging to them occupy about 30 acres. They are constructed of a light-colored sandstone.

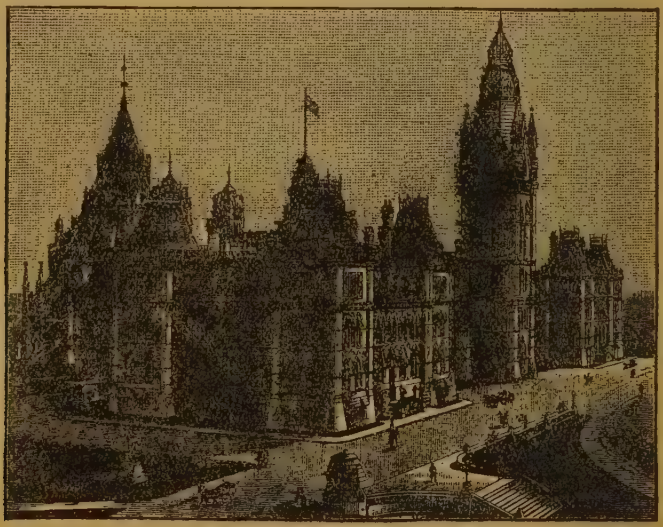
Ottawa was founded by Colonel By in 1827, and in his honor was named Bytown. In 1854 it received its present name and was incorporated as a city. Four years later Queen Victoria selected it as the capital of Canada. The cornerstone of the government buildings was laid by the Prince of Wales, now King Edward VII., in September, 1860. A terrific fire swept the city on April 26, 1900, destroying nearly $20,000,000 worth of property and rendering 12,000 persons homeless. Pop. (1891) 44,154; (1901) 59,902.

Ottawa University, a coeducational institution in Ottawa, Kan.; founded in 1865 under the auspices of the Baptist Church.

Otter. The animals vary greatly in size; but the total length averages about 40 inches, of which the tail constitutes rather more than a third. The fur is of soft, brown color, lighter on throat and breast, and consists of long, coarse, shining hairs, with a short under fur of fine texture. The otter lives exclusively on fish, and is therefore rarely met with far from water.

He was reluctant to separate formally from the German Reformed Church, but took that step in 1800, when along with Rev. Martin Boehm, a Mennonite, and long his associate in revival work, he was ordained bishop of the new society. He died Nov. 17, 1813.

Ouida, pseudonym of the novelist Louise de la Rame; born about 1840; spent part of her girlhood with her mother at Bury St. Edmunds. About 1874 she was living in London at the Langham, and afterward Florence was her chief abode. She has written many well-known novels.



OTTAWA MAIN PARLIAMENT BUILDING.

Otterbein, Philip William, founder of the Church of the United Brethren in Christ; born June 3, 1726, at Dillenburg, Nassau, Germany; student and teacher in the Reformed Academy at Herborn; came as missionary to America in 1752, at call of Rev. Michael Schlatter, who was acting under the direction of the synods of Holland, as pioneer preacher to the German Reformed in America. Otterbein was a powerful preacher, and started a great revival in 1766.

Ounce, a unit of weight. In Troy weight, the ounce is one-twelfth of a pound, contains 20 pennyweights of 24 grains each, and is, therefore, equivalent to 480 grains. In avoirdupois weight, the ounce is the sixteenth part of a pound, and is equivalent to 437½ grains Troy. Also a money of account in Morocco, value, about six cents. In zoölogy, the snow leopard; habitat, the Himalayas, at an elevation ranging from 9,000 to 18,000 feet. It is about the size of a leopard, of which it is

probably an immature form; ground color pale yellowish-gray, dingy, yellowish-white beneath. The fur is thick, and it has a well marked short mane. It has never been known to attack man.

Ouseley, Sir Frederick Arthur Gore, an English composer; born in London, England, Aug. 12, 1825, only son of Sir Gore Ouseley. His works include treatises on "Harmony," on "Counterpoint," and "Fugue," and on "Musical Form" and general composition. Died in Oxford, April 6, 1889.

Outlawry, the act of outlawing; the state of being outlawed; the putting of a man out of the protection of the law, or the process by which a man is deprived of that protection, as a punishment for contempt in refusing to appear when called into court. Formerly any one might kill an outlawed person without incurring any penalty, but now the wanton killing of an outlaw is considered as murder. In the United States, in the case of notorious felons, a proclamation of outlawry sometimes issues from either the governor of a State or the President of the United States, and the proclamation is usually accompanied by a promise of pecuniary reward for the delivery of the criminal to the authorities either dead or alive, the captor being thus left to exercise his discretion as to the taking of life.

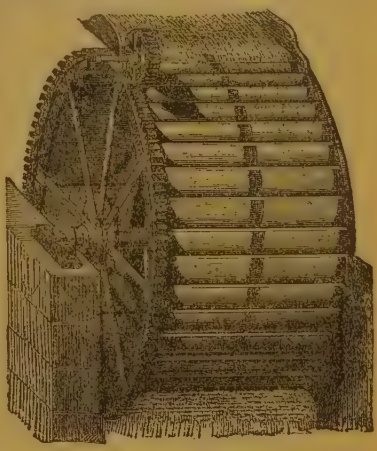
Ovary. In the human female the right and left ovary are two oval compressed bodies, attached to the uterus by a narrow fibrous cord, and more slightly by the fimbriated ends of the Fallopian tubes, which admit of the passage of the ovum from the ovary to the uterus, and, if it becomes impregnated, it remains there till the embryo is fully developed.

Oven Birds, birds found in South America. They are all of small size, and feed upon seeds, fruits, and insects. Their popular name is derived from the form of their nest, which is dome-shaped, and built of tough clay or mud with a winding entrance.

Ovenshine, Samuel, an American military officer; born in Pennsylvania, April 2, 1843; was commissioned a 2d lieutenant in the 5th United States Infantry, Aug. 5, 1861; promoted captain in 1864, major in 1885, and colonel of the 23d Infantry in 1895. He was a Brigadier-General of volunteers in 1898–1899, and in the latter year was promoted Brigadier-General, U. S. A., and retired. His last active service was in the Philippine Islands.

Overland Route, a term applied to the oldtime route to California as distinguished from the route via the Isthmus of Panama. Also a term first used for the route from Europe to India via Egypt, the desert, and Suez. It was in contradistinction to the Cape route (by the Cape of Good Hope), which was by water only.

Overshot Wheel, a form of water wheel in which the water flows upon or near the top of the wheel. It acts principally by gravity, though some effect is of course due to the velocity with which the water arrives.



OVERSHOT WHEEL.

Ovid, Publius Ovidius Naso, a Roman poet of the Augustan age, of the equestrian order; born in Sulmo, 43 B. C. Augustus was a liberal patron to him; but he at length fell under the displeasure of the emperor, who, for some cause never explained, banished him from Rome, and sent him to live among the Getæ, or Goths, on the Euxine. It is probable that the political intrigues of the Empress Livia and her son Tiberius contributed to the removal of the poet; while the licentious-

ness of his writings, and the irregularities of his life, afforded plausible pretexts for the infliction of this punishment. His chief works are "The Loves" "The Art of Loving," and the "Metamorphoses." He in vain solicited his recall to Rome, and died in Tomi, A. D. 18.

Oviparous, in zoölogy, a term applied to birds, reptiles, fishes, and insects, whose mode of reproduction is by the exclusion of a germ in the form and condition of an egg, the development of which takes place out of the body, either with or without incubation.

Owen, Robert Dale, an American author, reformer and diplomatist, son of Robert; born in Glasgow, Scotland, Nov. 7, 1801; was educated in Switzerland; removed to the United States in 1823; was Representative to Congress from Indiana (1843–1847); and minister to Naples (1855–1858). During the Civil War he was a prominent advocate of negro emancipation. He died in Lake George, N. Y., June 17, 1877.

ROCK OWL.

Owl, in ornithology, a popular name for any nocturnal, raptorial bird, of which about 200 species are known. Their classification is in a very unsettled state. Willoughby's division into two sections — one having "ears" or "horns," as the tufts of feathers on their heads were called, the other destitute of such appendages — was shown to be unnatural by Geoffroy St. Hilaire. The prevailing color of the plumage is brown, with a tinge of rusty-red, and it is exceedingly loose and soft, so that their flight (even in the larger species) is almost noiseless, enabling them to swoop upon their prey, which they hunt in the twilight. All owls cast up in the form of pellets the indigestible parts of the food swallowed. These castings may be seen under any owl-roost, and show plainly the great service these birds render to man in destroying rats and mice. They range over the whole globe.

Owl Parrot, the type and only known representative of a peculiar group of the parrot family, is a large

GREAT SNOW OWL.

bird, a native of the South Pacific Islands, and especially of New Zealand. In aspect and in nocturnal habits it resembles the owl. It feeds on roots, which it digs out of the earth with its hooked beak. It seldom flies; it is generally to be seen resting in hollow stumps and logs, and is said to hibernate in caves.

Ox, the popular name for the altered male of the bovine family, and for the family in general. It has been known from remote antiquity, and in

the East possessed, and in India still possesses, a sacred character. The domestic oxen consist of a great number of different breeds.

Oxalic Acid, formed commercially by fusing sawdust with a mixture of soda and potash to 204°, decomposing the oxalate with lime, and the lime salt with sulphuric acid, and afterward recrystallizing. The solution has a strong acid reaction, and is highly poisonous. The antidote is chalk or magnesia, with which it forms an insoluble compound, which is comparatively inocuous in the stomach.

Oxenstjerna, Axel, Count, a Swedish statesman; born in Fano, Sweden, June 16, 1583, studied theology at Rostock, Wittenberg, and Jena; and in 1602, after visiting most of the German courts, returned to Sweden and entered the service of Charles IX. In 1608 he was admitted into the senate; and on the accession of Gustavus Adolphus, in 1611, was made chancellor. He accompanied Gustavus Adolphus during his campaigns in Germany, taking charge of all diplomatic affairs; and on the fall of his master at Lutzen (1632) was recognized, at a congress assembled at Heilbronn, as the head of the Protestant League. This league was held together and supported solely by his influence and wisdom, and in 1636 he returned to Sweden after an absence of 10 years, laid down his extraordinary powers, and took his seat in the senate as chancellor of the kingdom and one of the five guardians of the queen. In 1645 he assisted in the negotiations with Denmark at Bromsebro, and on his return was created count by Queen Christina, whose determination to abdicate the crown he strongly but unsuccessfully opposed. He died in Stockholm, Aug. 28, 1654.

Oxford, a city and county borough in England; capital of Oxford co., and seat of one of the most celebrated universities in the world; about 50 miles W. N. W. of London, on a gentle acclivity between the Cherwell and the Thames, here called the Isis. Of the university buildings, the most remarkable are Christ's Church, the largest and grandest of all the colleges, with a fine quadrangle and other buildings, a noble avenue of trees (the Broad Walk), the cathedral serving as its chapel; Magdalen College, considered to be the most beautiful and complete of all: Balliol College, with a modern front (1867–1869) and a modern Gothic chapel; Brasenose College; and New College (more than 500 years old), largely consisting of the original buildings, and especially noted for its gardens and cloisters; besides the Sheldonian Theater, a public hall of the university; the new examination schools, new museum, Bodleian Library, Radcliffe Library, and other buildings belonging to the university. Oxford depends mostly on the university, and on its attractions as a place of residence. Pop. (1901) 49,413.

Oxford College, an educational, non-sectarian institution for women in Oxford, O.; founded in 1849.

Oxide, the product of the combination of oxygen with a metal or metalloid. In the former case a base is formed, in the latter an acid radical. Sometimes the oxide acts as a quasi-acid radical and as a base.

Oxygen, a dyad element existing in the free state in the atmosphere, and in combination in the ocean. It forms about one-fifth of the former and eight-ninths of the latter. It is also present in the great majority of substances forming the earth's crust, and is the most abundant of all the elements. It was discovered in 1774 by Scheele in Sweden and Priestley in England independently, but the name was given by Lavoisier some time after. It can be obtained pure by heating black oxide of manganese, or a mixture of this oxide with potassic chlorate in a retort, and collecting the gas over water. When pure it is without color, taste, or smell. It is the sustaining principle of animal life and of the ordinary phenomena of combustion. Phosphorus and ignited charcoal burn in it with great brilliancy, and a piece of watchspring, having at the end some lighted sulphur, exhibits in oxygen a beautiful phenomenon of combustion. It is a little heavier than atmospheric air. Under the influence of cold and high pressure it has been reduced to the liquid state.

Oyer and Terminer, the former name of courts of criminal jurisdiction in the United States, generally held at the same time with the courts of

quarter sessions, and by the same judges, and which have power, as the terms imply, to hear and determine all treasons, felonies, and misdemeanors committed within their jurisdiction.

Oyster, a well-known edible shell fish, occurring in most parts of the world, but at their best in America, English and European oysters generally being beneath comparison with the American. The breeding time of oysters is in April or May, from which time to July or August, the oysters are said to be "sick," or "in the milk." This is known by the appearance of a milky substance in the gills. Oysters attain a size fit for the table in about a year and a half, and are in their prime at three years of age; though what the natural term of their lives may be, it is difficult, if not impossible to determine with any degree of accuracy.

Oysters form the basis of many culinary preparations, but are much more digestible in their raw state than after any mode of cooking them, as this process, in a great measure, deprives them of the nourishing animal jelly which forms so large a portion of their substance.

The oysters most esteemed in the United States are the Virginian oyster and the Northern oyster. In the Virginian the shell is elongated and narrow, and the beaks pointed and not much curved. This is the common oyster from Chesapeake Bay S.; it is sometimes found in the vicinity of Boston; and also at the mouth of the St. Lawrence river; it multiplies so rapidly on some of the low shores of the Southern States as to offer impediments to navigation, and to change the course of tidal currents. In the Northern oyster the shell is more rounded and curved with the beaks short and considerably curved. Boston market is supplied principally from artificial beds derived from the Virginia and New York oysters. The flats in the vicinity of maritime cities are generally thickly beset with poles, indicating the localities of oyster beds. The principal sources of supply are the Chesapeake Bay, the coast of New Jersey, and Long Island Sound.

Formerly the oyster beds were almost wholly kept up by restocking them with seed oysters from Chesapeake Bay and from the Hudson river; but of late years the spat is secured at spawning time, and new ground in the vicinity is brought under cultivation, till the area of oyster beds in Long Island Sound is now computed by miles rather than by acres, and it is yearly extending. In the United States there are various laws for the protection of the oyster industry, and applicable to the various States, those relating to Virginia and New Jersey, being the most specific and strict.

Oyster Catcher, a name applied to several American species of wading birds, also a handsome European bird, about 16 inches long, common on flat,

OYSTER CATCHER.

sandy coasts. The head, neck, throat, scapularies, quill feathers, and the latter half of the tail feathers are deep glossy black, the rest of the plumage pure white.

Oyster Crab. This little crab is about the size and shape of a pea, resembling somewhat a bleached out spider. It is common on our coast.

Ozark Mountains, a chain of the United States, intersecting in a S. W. direction the States of Missouri and Arkansas; height about 1,400 feet.

Ozokerite, Mineral Wax, or **Ceresin,** a mineral found in large deposits in Utah and in the Austrian province of Galicia. Among other uses to which it is put are the making of liniments, salves, and plasters, sealing wax, wax matches.

Ozone, in chemistry, a modification of oxygen existing as a triatomic molecule. It is nearly always present in the atmosphere.

P

P, p, the 16th letter and the 12th consonant of the English alphabet is a labial sound, formed by a compression of the anterior part of the lips, as in pull, papa, ap.

Paca, a small South American rodent, allied to the guinea pig. It lives singly or in pairs, passing the day in a hole at the root of some tree, or in a burrow. It is a vegetable feeder. The flesh is well flavored, and is eaten by natives and foreigners.

PACA.

Paca, William, an American statesman; one of the signers of the Declaration of Independence; born in Wyehall, Harford co., Md., Oct. 31, 1740; Governor of Maryland in 1782–1785; died in Wyehall in 1799.

Pacajas, an Indian tribe of the lower Amazon, which formerly occupied much of the mainland on both sides of the island of Marajo. They were agriculturists and lived in large villages. They do not exist now as a separate tribe.

Pacay, a Peruvian tree. The pure white, flaky matter in which the seeds are embedded is used as food, and the pods, which are nearly two feet long, serve for feeding cattle.

Pace, a step; a single change of the foot in walking, or manner of walking; gait, walk. Also a linear measure, representing the distance traversed by the foot from the place where it is taken up to that where it is set down in walking; it is variously estimated at 4 2-5 to 5 feet. The military pace of a single step is 2 1-2 feet.

Pachira, a South American tree, the inner bark of which furnishes excellent cordage.

Pachmann, Vladimir de, a Russian pianist; born in Odessa, Russia, July 27, 1848. He studied under his father, who was a violinist of some talent, and was also a pupil of Dachs at Vienna. His first appearance was in 1869, and in 1871 he began his tours. He has attained a high reputation in the United States, and in Europe.

Pacific, University of the, a coeducational institution in San Jose, Cal., founded in 1852 under the auspices of the Methodist Episcopal Church.

Pacific, War of the, a name usually given to the war by Chile against Bolivia and Peru in 1879–1883. Many battles were fought on sea and land in which the Chileans were, as a rule, victorious. A treaty of peace between Chile and Peru was signed at Ancon, Oct. 20, 1883, and ratified April 4, 1884. A treaty of peace between Chile and Bolivia was signed Dec. 11, 1883. By these treaties all the coast region of Bolivia and Tarapaca in Peru were permanently ceded to Chile.

Pacific Ocean, the largest of the five great oceans, lying between America on the E., and Asia, Malaysia, and Australasia on the W. The name "Pacific," given to it by Magellan, the first European navigator who traversed its wide expanse, is doubtless very appropriate to certain portions of this ocean; but, as a whole, its special claims to the epithet are, at the least, doubtful, though the name has by long usage become too well established to be easily supplanted by any other. The greatest length of the Pacific Ocean from the Arctic (at Bering Strait) to the Antarctic circles is 9,200 miles, and its greatest width, about 10,300 miles; while its area may be roughly estimated at about two-fifths of the whole surface of the earth. Its surface is studded with numerous islands, either scattered or in groups. The deepest sounding yet found in the Pacific Ocean is 26,850 feet, or about 5 miles — nearly equal to the height of the highest mountain on the globe. The coasts of the Pacific Ocean present a general resemblance to those of the Atlantic, and the similarity in the outline of the W. coasts of each is even striking, especially N. of the equator. The shore on the American side is bold and rocky, while that of Asia varies much in character. Though the Pacific Ocean is by far the largest of the five great oceans the proportion of land drained into it is comparatively insignificant. Its basin includes only the narrow strip of the American continent to the W. of the Andes and Rocky Mountains; Melanesia; which contains few rivers, and none of them of large size; the Indo-Chinese States, China proper, with the E. part of Mongolia, and Manchuria in the Asiatic continent.

The currents of the Pacific Ocean, though less marked in character and effects than those of the Atlantic are yet of sufficient importance to require a brief notice. The Southern Pacific current takes its rise S. of Van Dieman's Land, and flows E. at the rate of half a mile per hour, dividing into two branches about lon. 98° W., the N. branch, or Current of Mentor, turning N. and gradually losing itself in the counter Equatorial Current; the S. branch continuing its E. course till it is subdivided by the opposition of Cape Horn into two branches, one of which, the cold Current of Peru, or Humboldt's Current, advances N. along the W. coast of South America, becoming finally absorbed in the Equatorial Current; the other washing the coast of Brazil, and becoming an Atlantic current. The existence of this ocean first became known to Europeans through Columbus, who had received accounts of it from some of the natives of America, though it was first seen by Balboa, Sept. 29, 1513, and first traversed by Magellan eight years afterward. Captain Cook deserves the first place among the investigators of the Pacific Ocean.

Pacific Railroads, a general name given to all the railroads connecting the Pacific coast of the United States with other parts of the country, to which the aid of the National government was given in their construction. The Union Pacific railroad was built W. over the mountains, and the Central Pacific railroad was built E. from Sacramento. These two lines were joined, with impressive ceremonies, at Promontory Point, Utah, May 10, 1869. The last tie, of laurel wood, with a plate of silver upon it, was laid, and the last spike, made of iron, silver, and gold, was driven in the presence of distinguished men, the officers of the road and a large concourse of visitors. Telegraph wires were attached to the last rail, and the last blows were signalled upon bells in Washington and other large cities. When the signal was received in San Francisco and elsewhere all the church bells were run, and cannon were fired.

Pacific University, a coeducational institution in Forest Grove, Or.; founded in 1853 under the auspices of the Congregational Church.

Packard, Alpheus Spring, an American naturalist; born in Brunswick, Me., Feb. 19, 1839; was graduated at Bowdoin in 1861; and was for a time assistant to Agassiz at Cambridge. He took part in several scientific expeditions. He is best known as an entomologist; his classification of insects, proposed in 1863, has been generally accepted.

Packard, Frederick Adolphus, an American lawyer, editor, and author; born in Marlboro, Mass., Sept. 25, 1794. He was editor of the publications of the American Sunday-school Union for nearly 40 years. He died in Philadelphia, Pa., Nov. 11, 1867.

Packer, Asa, an American capitalist and philanthropist; born in Groton, Conn., Dec. 20, 1806; was a member of the Pennsylvania Legislature, county judge, projector of the Lehigh Valley railroad, etc. He became the richest man in Pennsylvania. He served two terms in Congress. Died in Philadelphia, Pa., May 17, 1879.

Pactolus, anciently the name of a small brook of Lydia, in Asia Minor, which rises on the N. slope of Mount Tmolus. The sands or mud of Pactolus were long famous in antiquity for the particles of gold dust which they contained. The collection of these particles, according to legend, was the source of Crœsus' vast wealth. The brook is now called Sarabat.

Paddle Fish, a large fish allied to the sturgeons, so named from the elongated broad snout with which it stirs up the soft muddy bottom in search of food. It often reaches a length of from 5 to 6 feet. The paddle fishes are exclusively North American in their distribution, being found in the Mississippi, Ohio, and other great rivers of this continent.

Paderewsky, Ignace Jan, a Russian pianist; born in Podolia, Russian Poland, Nov. 6, 1860. In 1872 he went to Warsaw. At 18 he was nominated Professor of Music to the Warsaw Conservatory. In 1884 he held a professorship at the Conservatory of Music in Strasburg, but he resolved upon the more fascinating career of a pianistic virtuoso. He made his debut before the Viennese public in 1887, and was at once proclaimed to be one of the most remarkable pianists of the day. He visited the United States four times.

Padishah, or **Padisha,** the title of the Sultan of Turkey and of the Shah of Persia.

Pæan, in classical mythology, a name given to Apollo. Also the ancient choral song addressed to Apollo, named after its burden. It was sung sometimes before battle, and sometimes after a victory.

Paes, or **Paezes,** an Indian tribe living in the mountains of Colombia. They were formerly a powerful, warlike tribe, now reduced to about 2,000. They live in villages and follow agriculture and though inhabiting a cold region wear few clothes.

Paez, Jose Antonio, one of the founders of South American independence; born of Indian parents near Acarigua, Venezuela, in 1790. He entered the patriot army in 1810, rose to general of division in 1819, and took a leading part in the battle of Carabobo, which secured the independence of Colombia in 1821. At first he acted in concert with Bolivar, but in 1829 he placed himself at the head of the revolution which culminated in the independence of Venezuela, of which he was the first president. He spent the latter part of his life in the United States. He died in exile in New York, May 7, 1873.

Pagan, a heathen, an idolater; one who worships idols or false gods (applied to one who is not a Christian, a Jew, or a Mohammedan).

Paganism, the state or condition of a pagan; heathenism; the worship of idols or false gods, used specially of that of ancient Rome.

Page, a youth attached to the service of a royal or noble personage, rather for formality or show than for servitude. The word is also applied to messenger boys in National, State, and municipal legislative bodies.

Page, Thomas Jefferson, an American naval officer; born in Shelley, Gloucester co., Va., Jan. 4, 1808. In 1853–1856 he was lieutenant-commander in explorations in South America. He resigned in 1861 and entered the Confederate service. He then left the service and subsequently resided in the Argentine Republic and

in Florence, Italy. He died in Rome, Italy, Oct. 26, 1899.

Page, Thomas Nelson, an American novelist; born in Oakland, Va., April 23, 1853. He was educated at Washington and Lee University, and practised law at Richmond, Va. His books are widely read.

Page, William, an American artist; born in Albany, N. Y., Jan. 23, 1811. He painted portraits of John Quincy, the Brownings, Charlotte Cushman, and many other notables, and a full-length painting of Admiral Farragut, which was purchased and presented to the Emperor of Russia. He died in Tottenville, Staten Island, N. Y., Oct. 1, 1885.

Pago Pago, a harbor in the island of Tutuila, Samoa. It is a long L-shaped expanse of water, extending mostly in an E. and W. direction, and surrounded by tall, almost precipitous cliffs, that run up into peaks from 2,000 to 3,000 feet high. The harbor was ceded to the United States for a naval and coaling station, first in 1872, and afterward confirmed by a treaty signed in Washington, Jan. 17, 1878. This harbor was occupied by the United States in 1898, with the purpose of utilizing its advantages as a coaling and supply station. Tutuila, the island on whose coast this harbor is located, has a population of 3,700 and an area of 54 square miles.

Pagoda, the temple of an idol in India, belonging both to antiquity and modern times. They consist of one or more quadrangular courts with towers at the corners, surrounded by a wall. Large pyramids rising in stages cover the entrance, behind which extend colonnades. Inside the courts are lustral pools, colonnades, and large halls, called Tschultris, which are used to lodge pilgrims in. Small side temples appear with cupolas surmounting the accessory buildings. Behind the first court is often a second and a third, in which, finally, the chief temple stands. The most celebrated is that of Juggernaut, in the island of Ramisseram, built in the latter part of the 12th century.

Paiconecas, a race of Indians in Northeastern Bolivia, who were formerly quite numerous. They were agriculturists and a portion of them were converted by the Jesuits and joined the mission of Conception, where, in 1831, there were about 500 of them. They are probably of the same stock as the Paunacas, a tribe mentioned by Fernandez.

Pain, an uneasy sensation of body, resulting from particular impressions made on the extremities of the nerves transmitted to the brain.

Paine, Charles Jackson, an American sportsman; born in Boston, Mass., Aug. 26, 1833; was graduated at Harvard College in 1853 and entered the National army as captain of the 22d Massachusetts Volunteers on Oct. 8, 1861; served with distinction during the Civil War; received the brevet of Major-General of volunteers on Jan. 15, 1865, and was mustered out of the service in January, 1866. After the war he began to occupy his spare time with yachting; became a member of the New York Yacht Club, and four times successfully defended the "America's" Cup; once in 1885, when he defeated the "Genesta" with the "Puritan," again in 1886, when he defeated the "Galatea" with his "Mayflower"; again in 1887, with the "Volunteer" against the English "Thistle"; and last in 1893, when he defeated Lord Dunraven's "Valkyrie" with the "Vigilant."

Paine, Halbert Eleazar, an American military officer; born in Chardon, O., Feb. 4, 1826. He was a general in the Union army during the Civil War; Republican member of Congress from Wisconsin in 1865–1871; and United States Commissioner of Patents in 1879–1881.

Paine, John Knowles, an American organist and composer; born in Portland, Me., Jan. 9, 1839; was Professor of Music from 1874 at Harvard College. His compositions include the Columbus march and hymn for the World's Columbian Exposition.

Paine, Robert Treat, an American jurist; signer of the Declaration of Independence; born in Boston, Mass., March 11, 1731; was a delegate to provincial and continental congresses, and held offices of attorney-general of Massachusetts and judge of the Supreme Court; was an able judge. He died in Boston, May 11, 1814.

Paine, Robert Treat, Jr., an American poet; born in Taunton, Mass., Dec. 9, 1773. During the greater part of his career he was engaged in various literary pursuits, though he was at one time in business, and later practised law for a brief period. He will be best remembered as the author of two songs, "Rise Columbia," and "Adams and Liberty." He died in Boston, Nov. 13, 1811.

Paine, Thomas, an American political writer; born in England, in 1737. He early distinguished himself by his literary abilities and republican ideas. At the outbreak of the Revolutionary War he, in 1774, emigrated to the United States; gave an impulse to the Revolution by his famous pamphlet called "Common Sense," in which he advocated the policy of separation and independence. He went to Paris in 1789. In September, 1792, he was elected a member of the French National Convention, acted with the Girondists, narrowly escaped death in the Reign of Terror, and brought out in 1795 his celebrated infidel work entitled "The Age of Reason." He returned to the United States in 1802 and died in New York, June 8, 1809.

Painter's Colic, a disease which derives its name from the fact that painters are more frequently attacked by it than persons of other occupations.

Painting, an art which, by means of light, shade, and color, represents on a plane surface all objects presented to the eye or to the imagination. Painting appears to have had its origin among all nations as a species of writing. Considered as an art, it may be said to consist of two chief parts — outline and design. Outline is a design without color, and examples of it may be seen in the cartoons of Raphael, Retzsch, Flaxman, and others. Design, properly so called, includes outline, representing the contour of objects, together with color, which gives to the image not only the hue, but also the form and relief proper to the object.

Paiute, or **Piute,** a name strictly belonging to a small tribe of North American Indians living in Southwestern Utah, but generally given to a number of Shoshonean tribes which are scattered throughout Utah, Nevada, Arizona, and Southeastern California. They number in all about 5,000.

Paixhans, Henri Joseph, a French military officer; born in Metz, in 1783. He was the inventor of the guns and projectiles which bear his name. The Paixhans guns are adapted to throw shells and hollow shot. He died in 1854.

Pakenham, Sir Edward Michael, an English military officer; born in Ireland, March 19, 1778. He commanded the British expedition against New Orleans in 1814. He led the British bravely in the battle of New Orleans, January 8, 1815, and was killed while urging on his men.

Palæologus, an illustrious Bizantine family, first mentioned about 1078, when George Palæologus was a faithful servant of the Emperor Nicephorus III. He was killed while defending Dyrrhachium, or Durazzo, against the Normans in 1081. The Palæologi, the last Greek family that occupied the throne of Constantinople, reigned from 1260 to 1453. A branch of the Palæologi ruled over Montferrat in Italy from 1305 to 1530.

Palæontology, that branch of natural science which treats of fossil organic remains.

Palæozoic, or **Paleozoic,** in geology, the term generally applied to the series of strata commencing with the first rocks which have traces of life, and ending with the upper part of the Permian.

Palæstra, originally in Greece a place for wrestling, afterward a place for training the athletes who contended in the public games.

Palaihnihan, or **Pit River, Indians,** a collection of tribes which formerly occupied the territory drained by Pit river and its tributaries in Northeastern California. They are now almost extinct.

Palais Royal, a popular resort of the Parisians, originally a royal palace as the name implies. The original palace was built (1629–1636) by Richelieu, and by him presented to Louis XIII. It was confiscated by the Republicans in 1793, and the Tribunal sat in the palace during the Reign of Terror. At the Restoration it was repurchased by the Duke of Orleans, but in the Revolution of 1848

it was again appropriated to the state. In 1871 it was set on fire by the Communists, but has since been restored.

Palanquin, or **Palki,** the vehicle commonly used in Hindustan and the East by travelers. It is a bamboo or wooden box about 8 feet long, 4 feet wide, and 4 feet high, with shutters which can be opened or shut at pleasure. It is borne by means of poles on the shoulders of coolies.

Palate, the roof of the mouth. The fore part is called the hard palate and the back part the soft palate.

Palatinate, Lower, or **Palatinate of the Rhine,** the name formerly given to two states of Germany, which were designated by way of distinction, the Upper and Lower Palatinate, and though not contiguous, were under the control of the same sovereign till 1620. At that period they underwent great changes. Since the wars of the first French Revolution, which contributed more than any event on record to unsettle the ancient landmarks, they have been divided among different German sovereigns, and their very name has disappeared from the maps of Germany.

Palatine Hill, one of the seven hills of Rome. It borders on the Forum and is said to be the site of the city founded by Remus.

Palenque, a village of Mexico, state of Chiapas, about 100 miles E. N. E. of Ciudad-Real. About 7 miles S. W. of it are extensive and magnificent ruins. Most of the buildings are of one story, but a few are two, three, and some have even four stories. The principal structure known as the Palace, is 228 feet long, 180 feet deep, and 25 feet high, standing on a terraced, truncated pyramid of corresponding dimensions. It was faced with cut stone, cemented with mortar of lime and sand, and the front covered with stucco, and painted. A corridor runs around the building, opening into four interior courts, which open into many smaller rooms. These ruins were in the same condition when Cortez conquered Mexico, as now, overgrown with a forest, and their site forgotten. They were only discovered in 1750. There are in Mexico dim traditions of the existence, at a remote period, of the capital of a theocratic state, the center of a long since extinguished civilization, of which the only traces are these wonderful ruins and unexplained hieroglyphics.

Palermo (ancient Panormus), the capital city, and a seaport of Sicily, on its N. W. extremity. It is built on the S. W. of an extensive bay, in a plain, which, from its luxuriance and from being surrounded by mountains on three sides, has been termed the "golden shell." In the front of the city is the Mariana, a raised terrace, extending more than 1 mile along the bay, and is about 200 feet wide. Near Palermo are many fine specimens of Saracenic architecture. Palermo, the ancient Panormus, is first mentioned in history 480 B. C., when the Carthaginians made it a naval station. It was taken by the Romans 254 B. C., and it became one of their principal naval stations. It fell into the hands of the Goths, in 493. The Saracens captured it in 835, and made it the capital of their Sicilian territories. The Normans took it in 1072. Palermo was taken by Garibaldi in May, 1860. Pop. 290,951.

Palermo, Gulf of, a bay or arm of the Mediterranean Sea, near Palermo.

Palestine, or **Holy Land,** a country of Southwestern Asia, comprising the S. part of Syria; length, 193 miles; average breadth, 75 miles; area, 11,000 square miles. The surface is generally mountainous, interspersed from N. to S. by the mountain chain of Lebanon, Mount Hermon, the highest peak, attaining an elevation of 10,000 feet. There are numerous other peaks, some of which are made famous by their frequent mention in sacred history: Mount Carmel, forming a promontory in the Mediterranean on the S. W. of the Bay of Acre; Mount Tabor, at the N. E. extremity of the plain of Esdraelon; Ebal and Gerizim, in Samaria; Gilead, and Nebo or Pisgah, E. of the Jordan; and Zion, Moriah, and the Mount of Olives, in or near Jerusalem. Judæa proper, the ancient kingdom of Judah, comprises the territory extending from Lake Asphaltites to the sea. To the N. of ancient Judæa was Samaria, a mountainous district, but flourishing and well cultivated. To the N. of Samaria, but still communicating with Judæa

by the banks of the Jordan, is Galilee, distinguished by its natural beauty and fertility. The Lake of Tiberias, or Gennesareth, is surrounded by lofty and picturesque hills, the sides of which were once highly cultivated, and its banks covered with flourishing towns, now almost deserted. In many parts there are the remains of ancient ruins. The rivers are the Jordan, Jarmuth, Kishon, and the Nahr, Naman or Belus. The lakes are Gennesareth, and the Dead Sea. The climate is very fine in the dry season. Frosts are slight in winter, except in the elevated parts, where snow occasionally falls.

The name Palestine is derived from the Hebrew Pelescheth, or land of the Philistines, and is properly applicable to the S. W. portion of the country. Its most ancient name was Canaan, its inhabitants being descended from Canaan, the fourth son of Ham and grandson of Noah. In the time of Moses the country E. of the Jordan was conquered and divided among the tribes of Reuben and Gad, and half of the tribe of Manasseh; under Joshua, the remainder was conquered and divided between the other 10 tribes. Under the reigns of David and Solomon it became one of the most flourishing kingdoms of Asia. It was conquered, however, by the kings of Nineveh and Babylon, who carried captive first Israel and then Judah, into the E. provinces of their empire. After the conquest of Babylon by Cyrus, the Jews were allowed to return to their country, to rebuild their temple, and reëstablish their ecclesiastical constitution. Palestine continued a province of Persia till after the conquest of Alexander, to whom it submitted without resistance. The Jews were again exposed to oppression from some of the Ptolemies, who having attempted to enforce the adoption of the Grecian idolatry, were met with the most determined resistance by the Maccabees, and Judæa now became an independent country. It subsequently fell under the dominion of Rome, who established the Herods as tributary kings. It was at this period that Palestine became the theater of those great events which form the foundation of Christianity. The Jews, however, having rebelled repeatedly against the Romans, Titus entered Judæa with a large army, took Jerusalem, which he razed to the ground and carried the whole nation captive, dispersing them throughout the Roman empire. The country remained in the power of the Romans till the conversion of the empire to Christianity, when it became an object of religious veneration. In the 6th century it fell under the sway of the Mohammedans, which gave occasion to the Crusades. Jerusalem was taken by the European forces, and was under Godfrey of Bouillon erected into a Latin kingdom, which endured for above 80 years, during which the Holy Land streamed with Christian and Saracen blood. In 1187 Judæa was conquered by Saladin, on the decline of whose kingdom it passed through various hands, till, in 1517, it was finally added to the Turkish empire.

Palette, an oval tablet of wood, or other material, very thin and smooth, on which painters lay the various colors they intend to use, so as to have them ready for the pencil.

Paley, William, an English theologian; born in Peterborough, in 1743. He was appointed archdeacon of Carlisle, 1782; prebendary of St. Paul's, London, 1794; dean of Lincoln, 1795. He wrote "View of the Evidences of Christianity," his most celebrated work, and "Natural Theology; or, Evidences of the Existence and Attributes of the Deity Collected from the Appearances of Nature," in some respects the most remarkable of all his writings. He died May 25, 1805.

Palfrey, Francis Winthrop, an American military officer; born in Boston, Mass., April 11, 1831; was graduated in the class of 1851 from Harvard College; served through the whole of the Civil War. From 1872 he was a registrar in bankruptcy.

Palfrey, John Gorham, an American clergyman and author; born in Boston, May 2, 1796. He was graduated at Harvard; was pastor of Brattle Street Unitarian Church, Boston; professor in Harvard; member of the State Legislature; secretary of State of Massachusetts; and member of the Anti-Slavery Congress at Paris, 1867. His enduring work is "The History of New England." Died in Cambridge, Mass., April 26, 1881.

Palfrey, Sarah Hammond, pseudonym E. Foxton, an American novelist and poet, daughter of John G.; born in Boston, Mass., Dec. 11, 1823. She resides in Cambridge, Mass.

Pali, an Indian language, originally the popular dialect of Magadha, now Behar. Buddha preached in it, and the writings embodying his faith were composed in it, on which accounts it became the sacred language of Buddhism. It is closely akin to Sanskrit.

Palisade, a fence or fencing of pales or stakes driven into the ground, to form an inclosure, as a protection to property. In fortification, a row of stakes set firmly in the ground and presenting a sharp point to an advancing party. The stakes are placed vertically at the foot of the slope of the counterscarp, or presented at an angle at the foot of a parapet, or on the banquette of the covered way. The name is applied to the precipitous west bank of the Hudson river opposite upper New York city, called "The Palisades."

Palissy, Bernard, a French potter and chemist; born in Algen about 1508. His pottery has become celebrated, and few things are more prized by the connoisseur than the famous "Palissy ware." Being a Protestant, he was arrested by the Leaguers toward the end of the reign of Henri III., and died in the Bastille in 1589.

Palladium, in classical antiquities, a celebrated statue of Pallas or Minerva, on the preservation of which depended the safety of the city of Troy. Hence, in common speech, anything on which the safety of a nation or people is said to depend.

Pallas, in Greek mythology, the goddess of wisdom. Her attributes and character were similar to those of the Roman Minerva.

Palliser, Sir William, a British military officer; born in Dublin, Ireland, June 18, 1830. He entered the army as a cavalry officer; in 1863 invented the chilled shot that bears his name, and a system of strengthening cast-iron ordnance by the insertion of a steel tube. He retired in 1871, and died Feb. 4, 1882.

Palliser Projectiles, in ordnance, cylindro-conoidal missiles, chilled at their points by being cast in molds of which the lower part is of iron, the upper part filled with the usual casting sand. Thus the point, being rapidly cooled, is intensely hard, but the rear part of the projectile is of ordinary cast-iron. They are made with a small cylindrical hollow inside, closed with a screw plug. When used as shells, this hollow is filled with a small bursting charge of powder, enclosed in a serge bag. They do not require a fuse, but explode on striking a hard object owing to the heat generated by the collision.

PALM: CHAMAEROPS HUMILIS.

Pallium, a square woolen cloak, capable of enveloping the entire person, which it could cover at night as a blanket. It was much worn by the Greeks, corresponding to the toga of

the Romans. Also an ecclesiastical vestment of the Roman Catholic Church. In the time of Gregory VII. (1073–1085) archbishops went for it to Rome; afterward the Popes sent it to them when they received their appointment. About 1370 Gregory XI. issued a decretal which rendered it imperative on an archbishop to have received the pallium before he could call a council, consecrate a bishop, or discharge other functions of his office.

SAGO PALM: CYCAS REVOLUTA.

Palm, a natural order of endogenous plants, the products of which are of extreme importance and utility to man. The size of the leaves varies, some being only a few inches in length, while in others they attain the enormous proportions of 35 feet in length by 5 or 6 feet in breadth. The flowers are small individually, but numerous, usually of a yellow tint, and in some species powerfully odorous. The fruit when ripe is berry-like, drupaceous, plum-like, or, as in the cocoanut, nut-like. Palms are natives chiefly of the tropical regions of the earth. Their stately habit, the elegant proportions of the stems, and the grace and beauty of the leaves of the majority of the larger species, coupled with the great variety and utility of the products of all, mark them as a most distinguished and valuable group of plants. Their stems when young and tender are delicious and nutritious food; when old and mature those of certain species yield valuable farinaceous substances. Some are valuable as timber trees, and the terminal bud of several consists of a mass of tender mucilaginous leaves, which are esteemed a delicate and delicious vegetable. Many yield by incision or otherwise an abundance of sweet sap, from which sugar, refreshing drinks, wines, spirits, and vinegar are obtained. Their leaves are used for thatch, and

for the making of mats, baskets, hats, umbrellas, thread, cord, and clothing. They yield excellent and inexhaustible materials, and they are in some cases a natural substitute for writing paper, the records and writings of many Eastern peoples being inscribed upon them. The true cabbage palm is a noble species indigenous to the West Indies, attaining the height of 170 to 200 feet, with a diameter of stem of about 7 feet. The terminal bud or "cabbage" is enclosed among many thin snow-white brittle flakes. It has the flavor of the almond, but with greater sweetness, and is boiled and eaten with meat. As its removal causes the death of the tree, it is regarded as an extravagant delicacy only rarely to be enjoyed.

The kiziuba palm is a native of Central and South America, and is a singular tree on account of its habit of growth. The roots all spring from the stem above the ground, every new root emerging from a point somewhat higher on the stem than the one which preceded it. And as the old roots decay, as the new are produced and penetrate the ground, a tree of some age presents the curious spectacle of being supported on three or four legs long enough and wide enough apart to enable a man to pass between them erect. The timber is used in flooring and for making umbrella sticks, musical instruments, etc.

The sugar palm is a native of the Moluccas, Cochin-China, and the Indian Archipelago, and is of immense value to the natives of these countries on account of its various products. It yields an abundant sweet sap, from which a chocolate-colored sugar is made. The sap fermented makes an intoxicating drink variously named by the inhabitants of the different countries. From the pith of the stem sago is obtained in great quantity, a single stem yielding as much as from 150 to 200 pounds.

The genus Calamus and its immediate allies are regarded as forming a connecting link between the palms and the grasses, having the inflorescence and fruit of the former and in some cases the habit of the latter.

The Piritu of Venezuela, the Paripou of Guiana, and the Papunba of the Amazon, are the local names of one species of palm, which produces fruits somewhat tringular in shape, about the size of an apricot, and bright reddish yellow in color. They have a peculiar oily flavor, and are eaten boiled or roasted, when they resemble chestnuts. They are also ground into meal, which is baked in cakes. The Great Macaw tree of the West Indies is a native of Jamaica, Trinidad, and the adjacent islands and continent. In Brazil it is called Macahuba, and in Guiana Macoya. The tree grows from 20 to 30 feet high, with a crown of leaves, each of which measures from 10 to 15 feet in length. The fruit yields an oil of yellow color, sweetish taste, and having the odor of violets, which is used in North America and Europe in the manufacture of toilet soaps. The nuts are capable of receiving a high polish, and are converted by the natives and the negroes into ornaments. The Tucum palm, a native of the Rio Negro and the Upper Amazon, yields a very superior fiber, the cordage from which is knitted into hammocks, which are in great demand with the Brazilians. The fleshy outer covering of the fruit is eaten by the natives. The Murumuru palm produces a very agreeable fruit with the fragrance of musk. Cattle eat the fruit with avidity.

The Coquito of Chile is a tree of about 50 feet in height, with a spreading crown of leaves. From its trunk a syrup is obtained called miel de palma, which is much esteemed by the Chileans and foreigners in cookery. It is obtained by cutting down the tree and lopping off its crown of leaves, when the sap flows from the wound, and is carefully collected; by cutting off a fresh slice from the wound daily, or when the flow of sap becomes weak, it may be kept flowing for several months; a good tree is said to yield as much as 90 gallons of sap, which on being boiled down assumes the consistence of treacle. There are many other useful and interesting species of palm.

Palm, Johann Philipp, a bookseller of Nuremburg, who acquired historic celebrity as a victim of Napoleonic tyranny in Germany; born in Schorndorf, in 1768. In the spring of 1806 a pamphlet entitled "Germany in its Deepest Humiliation," which

contained some bitter truths concerning Napoleon and the conduct of the French troops in Bavaria, was sent by his firm to a bookseller in Augsburg in the ordinary course of trade. The book fell into the hands of Napoleon's officers; they made the emperor acquainted with it. He ordered Palm, as the publisher, to be arrested, tried him by court-martial, and shot him at Braunau, Aug. 26, 1806. This murder greatly incensed the German people against the French.

Palma, the capital of the island of Majorca and of the Balearic Islands, on the Bay of Palma, on the S. coast.

Palma, Tomas Estrada, a Cuban statesman and soldier, called the "Franklin of Cuba"; born in Bayamo, Santiago de Cuba, July 9, 1835. He was educated at Havana; subsequently studied law at the University of Seville, Spain, and after his graduation returned to his native place. When the first suggestion of uprising was heard in 1865 he became interested and in 1867 threw himself into the conspiracies which had independence for their object. When Cespides raised the standard of revolt, Oct. 10, 1868, Palma freed his slaves, raised all he could from his tax-drained estates and aided the movement to the utmost. He took the field and his devoted mother shared the dangers of camp life with him. During his absence, one day, his detachment was surprised by the Spanish and his mother captured. She was compelled to walk behind the troops till she fell from exhaustion, and was abandoned in the woods, where her son found her, two weeks later, starving. She died in three days.

After the capture of Bayamo, which quickly followed the outbreak of the war, Palma was elected to the Cuban assembly and became secretary of the republic under the presidency of Spoturno. On the resignation of Spoturno, the Cuban Assembly elected Palma president, March 29, 1876. He performed the duties of the office with ability, but was captured by a force of Spanish soldiers while on a journey. He was first taken to Havana and imprisoned for five days in Morro Castle. He was then sent to Spain and imprisoned for a year in the castle of Fieuras. On the subsequent surrender of the revolutionists he was set at liberty and went first to Paris, and from there to New York. Later he went to the republic of Honduras, where he began work as a schoolmaster and became posmaster-general. He there married the daughter of President Guardiola and returned to the United States, where he settled in Orange co., New York. In September, 1895, he was made minister or delegate plenipotentiary abroad of the republic of Cuba. On Dec. 31, 1901, he was elected first president of the new Cuban republic, according to the constitution adopted by the Cuban national convention. His administration has been conservative and successful.

Palmer, Alonzo Benjamin, an American physician; born in Richfield, N. Y., Oct. 4, 1815. He studied medicine in New York and Philadelphia. In 1852 he was chosen to the chair of anatomy in the Medical School of the Michigan University; later he took the chair of materia medica, and in 1860 he was appointed Professor of Pathology and the Practice of Medicine. He added to his duties others at the Berkshire Medical College in Massachusetts, in 1864, and at Bowdoin College, Maine, in 1869. He died in Ann Arbor, Mich., Dec. 23, 1887.

Palmer, Arthur Hubbel, an American educator; born in Cleveland, O., June 30, 1852; was graduated at Western Reserve College in 1879; Professor of the German Language and Literature at Adelbert College; librarian of the college; and called to the chair of German Language and Literature at Yale in 1891.

Palmer, Erastus Dow, an American sculptor; born in Pompey, N. Y., April 2, 1817. Among his most famous works is the statue of Robert R. Livingston in the National Capitol.

Palmer, Sir Charles Mark, an English shipbuilder; born in South Shields, Nov. 3, 1822. He established the shipbuilding yard at Jarrow on the Tyne, where the first screw collier, the "John Bowes," was launched in 1852. He developed the Jarrow works into the gigantic concern, now Palmer's Shipbuilding and Iron Company, Limited, which constructs an ocean steamer from the iron ore of its own Yorkshire mines, through all its processes into a complete ship.

Palmer, Courtlandt, an American lawyer; born in New York, in 1843. He died in New York, in 1888.

Palmer, Edward Henry, the "Sheikh Abdullah," an English Orientalist; born in Cambridge, England, Aug. 7, 1840. He was elected by the government for the perilous mission of winning over the Sinai tribes to Great Britain and hindering the destruction of the Suez Canal. He made two expeditions during the second of which he was killed, Aug. 11, 1882.

Palmer, George Herbert, an American educator; born in Boston, Mass., March 19, 1842; was graduated at Harvard in 1864; was assistant Professor of Philosophy at Harvard and in 1889 became Professor of Natural Religion, Moral Philosophy and Civil Polity there.

Palmer, John McAuley, an American lawyer; born in Eagle Creek, Scott co., Ky., Sept. 13, 1817. In 1831 his parents removed with him to Madison co., Ill. In 1841 he was admitted to the bar, and in 1843 was elected probate judge of Macoupin co., Ill.; in 1847 was elected a member of the constitutional convention, and in 1849 county judge of Macoupin county. He was elected to the State Senate in 1852, and reëlected in 1854. He presided over the Republican State Convention in 1856, and represented the party in the National Convention in which John C. Fremont was nominated. He made an unsucessful canvass for Congress in 1859, and was chosen elector on the Lincoln ticket in 1860. He entered the army in 1861, and served with distinction, retiring in 1866 with the rank of Major-General, U. S. A. He then settled in Springfield, Ill., and resumed his civil career. In 1868 he was elected 16th governor of Illinois, and served four years. In 1872 he returned to the Democratic party and supported Greeley for President. He was nominated by the Democrats in the Legislature in 1877 and twice afterward as their candidate for United States Senator, without being elected; was delegate-at-large to the National Democratic convention in 1884, and was nominated by the Democratic State convention for governor in 1888 and defeated. In 1890, by an innovation in politics, the Democratic nomination for United States Senator was made by the State convention, and fell on General Palmer, at which time he was elected. In 1896 he was the candidate of the Gold Democrats for President of the United States. He died in Springfield, Ill., Sept. 25, 1900.

Palmer, John Williamson, an American author; born in Baltimore, Md., April 4, 1825. In 1870 he settled in New York; subsequently was connected with the staff of the "Century Dictionary." He died in New York city, in 1896.

Palmer, Julius Auboinean, an American author; born in Massachusetts, in 1840.

Palmer, Ray, an American clergyman and hymnologist; born in Little Compton, R. I., Nov. 12, 1808; was graduated at Yale in 1830, and entered the Congregational ministry; was secretary of the Congregational Union in New York city in 1866–1878; will be remembered by the hymn, "My Faith Looks Up to Thee." He died in Newark, N. J., March 29, 1887.

Palmer, William Pitt, an American poet; born in Stockbridge, Mass., Feb. 22, 1805. He died in Brooklyn, N. Y., May 2, 1884.

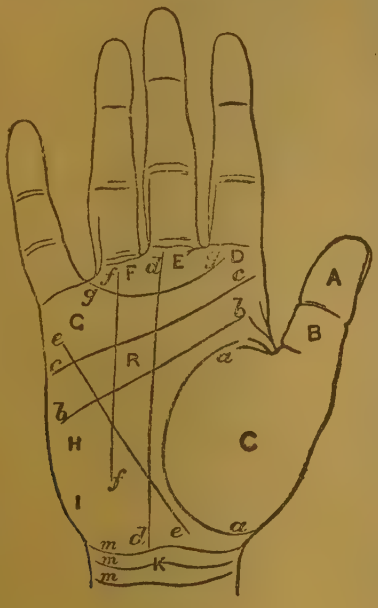
Palmerston, Henry John Temple, Viscount, an English statesman; born in 1784. In 1809 he was appointed Secretary of War, and in this office he remained through the various Tory administrations for nearly 20 years. Beginning with the Crimean War Lord Palmerston reached the apex of power as First Lord of the Treasury, and prime minister of Great Britain. As prime minister he successfully carried out the policy of alliance with France and the war with Russia, which ended with the fall of Sebastopol, in September, 1855. He was prime minister also during the American Civil War, and showed the ignorance common to British statesmen of that period, of American conditions and resources, England having been under his administration, almost an ally of the Confederacy. He died Oct. 27, 1865.

Palmetto, a fan palm growing in the West Indies, Bermuda, and the S. part of the United States. Its leaves are woven into hats, like those

made of chip. The trunks form good stockades, and were used for the purpose during the War of Independence.

Palmetto State, South Carolina. On its coat of arms is a delineation of one of these trees, for the growth of which the State is famous.

Palmistry, or **Chiromancy,** the art which professes to discover the temperament and character of anyone,



PALMISTRY.

A, will; B, logic; C, mount of Venus; D, mount of Jupiter; E, mount of Saturn; F, mount of Apollo; G, mount of Mercury; H, mount of Mars; I, mount of the Moon; K, the rascette; *a, a,* line of life; *b, b,* line of the head; *c, c,* line of heart; *d, d,* line of Saturn or fate; *e, e,* line of liver or health; *f, f,* line of Apollo or fortune; *g, g,* the girdle of Venus; R, the quadrangle; *m, m, m,* bracelets of life.

as well as the past and future events of his life, from an examination of the palm of his hand; and of the lines traced upon it.

Palm Oil, palm butter; a fat obtained from the fruit of certain kinds of palm, and imported into the coast of Guinea. It has the consistence of butter, an orange color, a smell resembling violets, and consists mainly of tripalmitin, with a little olein.

Palm Sunday, the Sunday immediately preceding Easter. It commemorates the triumphal entry of Jesus into Jerusalem, when the multitude strewed palm "branches," or rather leaves, for the typical palms, like those of Palestine, have no branches.

Palmyra, an ancient city in a fruitful and well-watered oasis of the Syria desert. It was the Tadmor or Thadmor of the Hebrews; founded, or enlarged by Solomon, about 1001 B. C. Both its Greek name Palmyra, and its Hebrew name Tadmor, signify the city of palms, and the Arabs call it Tedmor. It submitted to the Emperor Hadrian in 130 and rose to its highest power in the 3d century. Sapor I., King of Persia, was defeated here by Odenathus in 262. Odenathus was murdered about 267, and his wife Zenobia assumed the title of Queen of the East. Her army having been defeated at Antioch and at Emesa, Zenobia was besieged in her capital by the Emperor Aurelian in 272. She attempted to make her escape, but was taken prisoner, and Palmyra surrendered in 274. The citizens slew the Roman garrison, and Aurelian destroyed Palmyra. It was restored by Justinian I. in 527, and again destroyed by the Saracens in 744. It was plundered by Tamerlane in 1400. It had an immense temple dedicated to the sun, of which 60 columns out of 300 still remain.

Palo Alto, the name of a plain in Southern Texas, 8 miles from Brownsville, where the first battle of the Mexican War was fought, May 8, 1864. Gen. Zachary Taylor was in command of the United States troops of 2,300 men, while the Mexicans, under General Arista, had about 3,500. The battle was fought principally with artillery and the Mexicans were defeated.

Palolo, an edible annelid, extremely abundant at certain seasons in the

sea above and near the coral reefs which surround many of the Polynesian Islands. They are eagerly sought after by the islanders, who are on the watch for their appearance, and go out in canoes before sunrise to take them by means of nets. After sunrise the creatures break into pieces and the shoals are not seen till the next period. The two stated periods are October and November.

Palsy, the loss of power of motion. It is a symptom of disease usually of apoplexy. There are six forms: Cerebral, spinal, epileptic, choreic, hysterical, and peripheral, their frequency being in the order named. Palsy is uncommon but serious in the young, and most common in advanced life. There are four modes of termination: (1) Death; (2) complete recovery with wasting muscles; (3) partial recovery with rigid muscles; (4) complete recovery..

Pamirs, The ("roof of the world"), the name given to that part of Central Asia where the frontiers of Russia, China, and Afghanistan adjoin. It forms the nucleus of the Central Asiatic highland system, uniting the Himalayas and the mountains of the Tian Shan range with the Hindukush, and is traversed by a number of mountain ridges interspersed with broad valleys, the average altitude of the intervening table lands being 13,000 feet, while several of the highest peaks exceed 25,000 feet above the sea.

Pamlico, a tribe of Indians living on the Pamlico river, in Beaufort co., N. C.

Pamlico Sound, a shallow lagoon of the United States, on the S. E. coast of North Carolina. It is 80 miles long, from 8 to 30 miles wide, and separated from the ocean by long, narrow, sandy islands.

Pampas, properly treeless pasture land covered with grass, but used more comprehensively for the whole tableland of South America, from the boundary of Brazil, where the regular seasons of the tropics cease, across the States of La Plata and Patagonia nearly to Cape Horn.

Pamphlet, a small book or treatise consisting of a few sheets of paper stitched together. Pamphlets seem to have been first published in England in the 16th century during the Reformation controversy.

Pamphylia, anciently a country on the S. coast of Asia Minor, with Cilicia on the E. and Lycia on the W.

Pan, in Greek mythology, the god of shepherds, of huntsmen, and of all rural inhabitants. He was the son of Mercury, and was a monster in appearance, having two small horns in his head, a ruddy complexion, a flat nose; and his legs, thighs, tail, and feet were like those of a goat.

Panama, capital of the republic of Panama, capital of the department of the same name, on the Gulf of Panama and on the Pacific coast of the Isthmus of Panama. The city lies on a tongue of land, across which its streets stretch from sea to sea. The harbor is shallow, but affords secure anchorage. Panama is chiefly important as the terminus of the interoceanic railway and also of the proposed Panama Canal. The railway, which has been in operation since 1855, runs across the isthmus from Panama to Colon or Aspinwall on the Atlantic, and accommodates a large traffic. Pop. 30,000. The department occupies the Isthmus of Panama. The prosperity of the department depends largely upon its favorable geographical position, which facilitates transit from the Atlantic to the Pacific. Area, 31,571 square miles. Pop. 285,000.

Panama, Bay of, an arm of the Pacific Ocean, S. of the Isthmus of Panama.

Panama, Isthmus of, formerly called the Isthmus of Darien, has a breadth of from 30 to 70 miles, connects North with South America, and separates the Pacific from the Atlantic. The coast is rocky and loftly along the Caribbean Sea, but low and swampy along the Pacific.

Panama Canal. As early as the year 1528 the idea of a ship canal across the isthmus was entertained. In 1826 a line for such a canal was traced between Panama and Portobello; and between 1843 and 1874 repeated surveys were made by American, English and French engineers with the same view.

A route was selected by the distinguished French engineer M. de Les-

seps, who constructed the Suez Canal. His original plans contemplated a "sea-level" cutting without locks. Early in 1880 he was upon the ground with his scientific corps, and work was continued till 1889, when the lack of funds compelled a stoppage. The report of the special commission sent out by M. Brunet, the liquidator of the Panama Canal Company, to investigate the condition of the canal, estimates that it would cost $97,000,000 to complete the canal. The total cost was fixed at $180,000,000. The report further said that it would take between seven and eight years to complete it. The annual cost of management was estimated at $2,000,000. In 1897 the United States government appointed a commission, Rear-Admiral John S. Walker, president, to examine and report on the most practicable route for a canal across the isthmus. On Dec. 4, 1900, the commission reported unfavorably to the Panama route. On Jan. 4, 1902, the new Panama Company offered to sell its entire rights to the United States for $40,000,000. The prohibitive price originally asked, over $100,000,000, had been one of the deciding factors in the commission's report favoring the Nicaragua route, and the new offer consequently again opened the whole matter for discussion. If the offer were accepted the complete estimated cost of the Panama canal would be $184,233,358, about $5,000,000 less than the estimate for the Nicaragua route. The physical features of the Panama route are: Length, 46½ miles; estimated time of transit, 14 hours. The construction of a canal with locks has been pronounced practicable by an international board of American, French, English, German, and Russian engineers. The new plans provide for the usual system of locks and dams. Good harbors exist at the Atlantic and Pacific terminals. The canal is practically finished from Colon to Bujeo, 14 miles. The great trouble is in passing through the Culebra Ridge. The width of the canal would be 160 feet at the top and 72 feet at the bottom, except through the ridge, where it would be 78 feet at the top and 29 feet at the bottom.

The United States Senate on June 19, 1902, passed the Panama Canal bill by a vote of 67 in favor to 6 against, the House concurring on June 26. On Sept. 22, 1903, the Panama Canal Treaty died by limitation, Colombia having failed to ratify it within that time. On Nov. 4, 1903, Panama declared its independence and assumed all Canal Treaty obligations.

Pan-American Conference, an assemblage of delegates from all the governments of South and Central America, convened at Washington in 1889–1890, at the instance of James G. Blaine, then Secretary of State. The conference had for its immediate object the furtherance of international comity and commerce among the races of the American continent. The sittings were protracted for nearly six months, the delegates meantime visiting every city of importance in the United States. The definite recommendations made by the conference included a coinage of uniform weight and fineness, a common method of legalization of documents, the metrical decimal system, and a uniform system of weights and measures, regulation of the fees of consular agents, and certain conveniences of method in customs administration. These were only suggestions to the countries represented, and they could be made effective only by treaties Other important propositions were unanimously adopted, such as a great N. and S. trunk railway; government subsidies for steamship lines connecting the American countries represented; uniform protection for literary and art property, trade-marks, and patents; uniform quarantine regulations; a uniform extradition treaty, and a great international bank. The second conference met in the city of Mexico, Oct. 22, 1901. There were delegates from 19 States; those from the United States being as follows: Prof. Cyrus Northrup; ex-Senator Henry G. Davis; William I. Buchanan; Charles M. Pepper and Volney Foster.

Pan-American Exposition, a fair held in Buffalo, N. Y., from May 1 till Nov. 3, 1901. It was distinctively an American exposition, the exhibits from the various States of the Union and of South and Central America being unusually full. Power for the electrical exhibit, the finest ever given, was derived from Niagara Falls. Over 5,000 horse power, and

200,000 incandescent lamps were used. The electrical tower alone had 44,000 electric lights on its sides. Financially the exposition was a failure, due largely to the setback the exposition received at the time of President McKinley's assassination, which caused a temporary closing.

Panay, one of the Philippine islands, belonging to the Visayan group. The island in shape is nearly that of a triangle. In general it is mountainous, though there are many extensive and very fertile valleys. The island comprises the provinces of Antique, Capiz, Iloilo, and Concepcion; area, 4,700 square miles; pop. 735,000. Panay is celebrated for its forest products, there being in the single province of Capiz as many as 87 varieties of excellent building woods.

Pancreas, in anatomy, an organ situated within the curve formed by the duodenum; its main duct opening into the intestine there, and secreting the pancreatic fluid, which resembles saliva, the gland itself resembling the salivary glands. Its function is to secrete this fluid.

Pandora, the first mortal female, according to Hesiod. She was made by Vulcan out of clay, at the command of Jupiter, who wished to punish the impiety of Prometheus by giving him a companion. When the statue was animated, each god and goddess bestowed on her some special charm, while Jove himself presented her with the "Pandora's box," which could be only opened by the mortal she selected for her husband. Mercury carried her to earth, and presented her to the notice of Prometheus, who declined the alluring bribe, and refused the offer. His brother, captivated by Pandora's charms, eagerly asked for and obtained the lovely Pandora for his wife, upon which she presented him with the casket. When Epimetheus, the husband, opened the lid, all the ills and mischiefs that afflict mankind flew out and spread themselves over the world; and the consequences would have been still more fatal, had there not been Hope at the bottom.

Pandours, a people of Servian origin who lived scattered among the mountains of Hungary, near the village of Pandour in the county of Sohl. The name is now obsolete.

Pangolin, scaly ant-eater; the popular name for any individual of the genus Manis. They range in size from one foot to three feet in length, exclusive of the tail, which, in some species, is twice as long as the body; legs short, ears very small, tongue long and vermicular, to which ants are held fast by the copious flow of saliva with which it is lubricated. There are seven species, three from Asia and four from Africa.

Panhandle, The, a descriptive designation popularly given to the N. extremity of the State of West Virginia; a somewhat elongated strip of territory between the W. frontier of Pennsylvania and the Ohio river. Also the N. W. projection of Texas.

Panini, the greatest known grammarian of ancient India, whose work has up to the present day remained the standard of Sanskrit grammar. Of his life little is known save that he was born near Attock. His date even has not been ascertained.

Panorama, a painting of a complete scene, viewed from a central point, or made continuous on an unrolling canvas, as if the spectator were passing the particular spots consecutively.

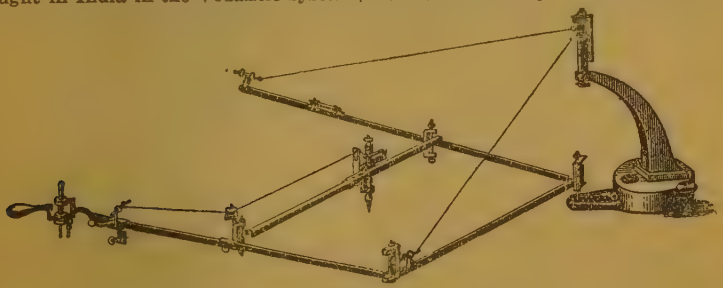
Panos, a tribe of Indians in Peru who were formerly very numerous. During the 17th century the missionaries persuaded many of them to gather in the mission villages. They were of a rather low grade, but understood hieroglyphic writing on bark. When the missions were broken up, in 1767, most of the Panos returned to their savage life, forming numerous small tribes. They have always been friendly to the whites.

Pan-Presbyterian Council, a body composed of all of the various branches of the Presbyterian and the Reformed Churches throughout the world, including the Cumberland Presbyterian, the United Presbyterian, the Scotch Presbyterian, the Dutch Reformed, the German Reformed, the Reformed Presbyterian, the Waldenses, the Huguenots and all other adherents of the Calvinistic faith. They represent about 35,000,000 communicants, located in 20 nations in different parts of the world, not including the missionary stations. The al-

liance is the largest regularly established religious organization in existence. It meets once in four years, and was organized chiefly by the late Dr. James McCosh and the late Dr. Philip Schaff. Its first meeting in the United States was in Philadelphia in 1880. It has no ecclesiastical power or authority. It cannot alter the canons or affect the discipline of the church, but is simply intended to promote fellowship, interest and enthusiasm among the believers in the Calvinistic doctrines.

Panslavism, a project or movement for the union, in one confederacy, of all the Slavic races, politically and socially.

Pantheism, the view that God and the universe are identical. It was taught in India in the Vedantic system of philosophy, one of the six leading schools of thought, and to this day it is widely accepted, both by the instructed Brahmins and by the common people.



PANTOGRAPH.

Pantheon, a famous temple at Rome, built by M. Agrippa, son-in-law of Augustus, about 27 B. C., and dedicated to Mars, and Jupiter the Avenger, in memory of the victory obtained by Augustus over Antony and Cleopatra. The Pantheon is now commonly called the Rotunda, from its circular form. There is an excellent cast of the Pantheon in the Metropolitan Museum of Art, New York city.

Panther, one of the cat tribe, of a yellow color, diversified with roundish black spots, a native of Asia and Africa. The panther is now supposed to be identical with, or a mere variety of the leopard. The name panther is given to the puma in America.

Pantograph, or **Pantagraph,** an instrument used in copying plans, maps, and other drawings, so that the copy may be either similar to, or larger or smaller than the original.

Pantomime, a theatrical representation, in which the entire plot is exhibited by gesticulations and scenic agency, without speeches or conversation.

Paoli, Pasquale, a Corsican patriot; born in 1726. In 1755, being invited by the Corsicans to become their captain-general, he put himself at the head of his countrymen, and, during 12 years, waged a fierce war with the Genoese, who were in the end driven from almost every fort in the island. Genoa, however, gave up the island to France in 1765; and soon afterward a large force was landed, under the command of Count Marbœuf, against whom Paoli and his followers fought desperately. But the Corsicans being totally routed at Pontenuovo, the island submitted. Paoli went to England, where he remained till 1789, in which year, Mirabeau having moved in the National Assembly the recall of all Corsican patriots, Paoli repaired to Paris, and was created by Louis XVI. military commandant in Corsica. While the government of France was monarchical, Paoli remained faithful; but, at the outbreak of the Revolution, he conceived a scheme for making Corsica an independent republic. Till this time he had been on the best terms with the Bonaparte family, but

they now joined the Jacobin party, while he allied himself with Great Britain, favored the landing of 2,000 British troops in the island in 1794, and joined them in driving out the French. He then surrendered the island to George III., but becoming dissatisfied with the government, he quarreled with the British viceroy, while many of his countrymen were displeased with the course he had adopted in allying himself with the British. He, therefore, left the island in 1796, and went to London, where he died in 1807.

Papa, the Latin form of the title now, in the Western Church, given exclusively to the Bishop of Rome. Originally, however, meaning simply "father," it was given indiscriminately to all bishops. In the Greek Church, whether in Greece proper or in Russia, papa is the common appellation of the clergy.

Papaw, a small South American tree which has now been introduced into many tropical and subtropical countries. The fruit is eaten either raw or boiled. The seeds when chewed have in a high degree the pungency of cresses. The powdered seeds and the juice of the unripe fruit are most powerful anthelmintics. The juice of the fruit and the sap of the tree render tough meat tender, even the exhalations from the tree have this property, and joints of meat, fowls, etc., are hung among its branches to prepare them for the table. It bears fruit all the year, and is exceedingly prolific.

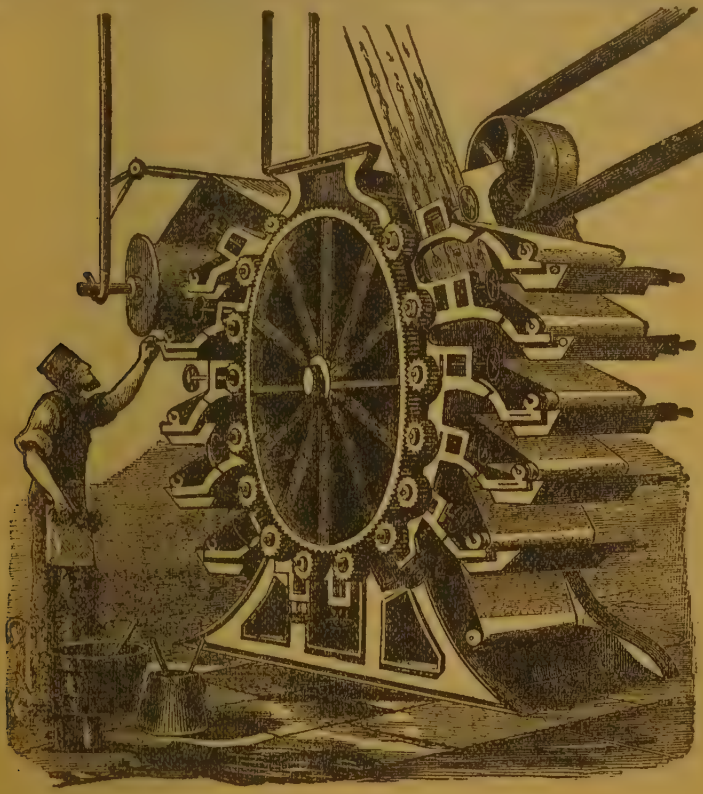
Paper, a material made in thin sheets from a pulp of rags, esparto grass, straw, wood or other fibers, and used for writing or printing on, or for wrapping. The earliest paper was doubtless that made from the Egyptian papyrus, whence all similar writing material is named. In the paper trade, as in other mechanical industries, there has been great progress made in the last half century. Chemists have furnished improved methods for washing bleaching and coloring the paper stock; while the mechanical improvements also have been many, both for boiling, running out, drying and finishing the pulp. The vegetable substances from which paper can be made are innumerable. The best sources of fiber are linen and cotton rags for white paper, and hempen cordage for brown; but rags are no longer available in sufficient quantities for paper making, and not all woody fiber is equally well adapted for the production of paper; moreover many vegetable growths yield cellulose at such cost as to be unremunerative. A caustic soda or soda-ash is required in the preparation of many fibers.

In the United States great progress has been made in paper manufacture. The first mill was established in 1690 on ground now included within Philadelphia. In 1770 there were 40 paper mills in Pennsylvania, New Jersey, and Delaware, and only three or four in New England. In 1840 there were in the United States 426 paper mills; in 1850, 443; and in 1860, 500, producing 60,000 tons; in 1872 there were 812 mills, owned by 705 firms, making 200,000 tons. At present, with over 1,000 paper mills having 3,000 machines, the quantity made greatly exceeds that of Great Britain; the amount in some of the last years of the decade 1880–1890 amounting to over 1,200,000 tons. In the other parts of America there are 85 paper mills. In Great Britain and Europe there are over 3,000 mills; in Asia there are 19 paper mills, besides numerous vats; in Africa, 4; and in Australia, 7; making a total of nearly 4,500 mills in the world. The production of hand-made papers in China and Japan it is impossible to estimate. China has made great strides in her exports of paper of all kinds. From about 75,000 hundredweight a few years ago the export advanced to 200,000 hundredweight in 1887, valued at $1,520,000. The greater part of the paper now made in the world — at least three-fourths — is believed to be used for printing on, since the correspondence carried on in many countries outside of Europe is comparatively small.

Papier-mache, a material composed principally of paper. The commoner varieties are prepared by pulping any kind or mixture of different kinds of paper into a homogeneous mass of a doughy consistence. Some earthy material may be mixed with the pulp, as well as chemicals, resinous substances, and glue to harden it

and prevent the attacks of insects. The pulp is rolled into thick sheets, and sufficient quantity is taken to form the article of ornament desired; this is subjected to heavy pressure between cameo and intaglio dies and afterward dried. Its surface may now be gilded, painted with oil or size colors, or varnished. The toughness and lightness of this material peculiarly adapt it for table ware, table and desk furniture, interior architectural and other ornaments.

Papilla, in anatomy, small eminences, more or less prominent, at the surface of several parts, particularly of the skin and mucous membranes, containing the ultimate expansions of the vessels and nerves, and are susceptible in some cases of a kind of erection. In botany, a small, elongated, or nipple shaped protuberance.



MACHINE FOR PRINTING WALL PAPER.

Papin, Denis, a French physician; born in Blois, France, in 1647. To Papin undoubtedly belongs the high honor of having first applied steam to produce motion by raising a piston; he combined with this the simplest means of producing a vacuum beneath the raised piston, viz., by condensa-

tion of aqueous vapor; he is also the inventor of the "safety-valve," an essential part of his "digester." By this latter machine, Papin showed that liquids in a vacuum can be put in a state of ebullition at a much lower temperature than when freely exposed to the air. Papin's sagacity led him to many other discoveries; he discovered the principle of action of the siphon, improved the pneumatic machine of Otto de Guericke, and took part against Leibnitz in the discussion concerning "living" and "dead" forces. He died in 1714.

Papion, a species of dog-headed baboon, akin to the mandril. It was held in great reverence in Egypt, selected individuals being kept near the temples, in the caves of which their mummied forms have been often found.

Papyrus, the plant from which the ancients made paper. It has an underground stem, at intervals sending up ordinary stems 8 or 10 feet high. It grows on the banks of the Nile, the Jordan and in the S. of Italy. The paper was made from thin slices of the stem cut vertically. It was made also into boats, and its fibers used for cordage. In literature, rolls of papyrus with writings on them constituting an ancient book. Many such papyri have been found at Herculaneum and Pompeii, the former partially legible, the latter wholly obliterated.

Par, a word used to denote a state of equality or equal value. Bills of exchange, stocks, etc., are at par when they sell for their nominal value, above par or below par when they sell for more or less.

Parable, a comparison, a similitude; specifically a fable or allegorical relation or representation of something real in life or nature, from which a moral is drawn for instruction. It differs from an apologue, in that it relates or represents things which, though fictitious, might happen in nature. An allegorical or mystical saying or expression; a proverb.

Parabola, in conic sections, a plane curve of such a form that if from any point in the curve one straight line be drawn to a given fixed point, the other perpendicular to a straight line given in position, these two straight lines will always be equal to one another. The given fixed point is called the focus of the parabola.

Paracelsus, a German theosophist, physician, and chemist; born in Einsiedeln, near Zurich, Germany, in 1493. His real name was Philip Theophrastus Bourbast von Hohenheim, but he assumed the high-sounding name of Aureolus Theophrastus Paracelsus. He learned the rudiments of alchemy, astrology, and medicine from his father, and then became a wandering scholar, visiting almost all parts of Europe. The greater part of his life was spent in roving from place to place, practising medicine, indulging in low habits, and writing his books, which were published in 10 volumes. Notwithstanding all his faults, errors, and absurdities, Paracelsus gave a new direction to medical science, by his doctrine that the true use of chemistry is not to make gold, but to prepare medicines; and from his day the study of chemistry became a necessary part of medical education. He died in Salzburg, in 1541.

Parachute, a device by which a descent is made from a balloon or an eminence. It is a light structure, and affords a large area of resistance to the atmosphere. It is usually in shape like an umbrella, 20 to 25 feet in diameter. It remains closed like an umbrella while the balloon to which it is attached is ascending, opening as soon as the descent begins, the expanded top serving to moderate its velocity.

Paradise. In Scripture, in the authorized version, the word paradise does not occur in the Old Testament. The word paradise occurs three times in the authorized version of the New Testament. It was the place to which Jesus and the penitent thief went the day that they died. St. Paul was caught up into it, and identified it with the third heaven. With analogies still preserved to the earthly Eden, the tree of life is in its midst. In theology, paradise is generally used to mean heaven, the place of the blessed.

Paradiseidae, birds of paradise; a family of passerine birds, "formerly restricted to about eight species of the more typical paradise birds, but in his splendid monograph of the group, Elliott has combined together a number

of forms which had been doubtfully placed in several adjacent families." The family differs from the Corvidæ, to which it is closely allied, in the outer being shorter than the middle, and longer than the inner toe, the hind toe being very large and equaling the middle in length.

Paradise Fish, a popular name for a fish from the East Indian Archipelago. Its coloration is brilliant and it is frequently found in aquaria.

Paradox, a tenet or statement contrary to received opinion; an assertion which is contrary to appearance, and seemingly absurd, impossible, or at variance with common sense, but which may, on examination, be found to be perfectly correct and well founded.

Paraffin, or **Paraffine,** a solid fatty substance, produced along with other substances in the dry or destructive distillations of various organic matters, such as coal, bituminous shale, lignite, peat, etc., at a low red heat. It is found along with liquid oils in petroleum, and in the native state in coal and bituminous strata, known as fossil wax, ozokerite, etc.

Paraguay, a large river of South America. The entire length of the river is estimated at 1,800 miles; it is on an average about half a mile in width, and is navigable for steamers to the mouth of the Cuyaba, 100 miles above the town of Corumba. The waters of the Paraguay, which are quite free from obstructions, were declared open to all nations in 1852; and since 1858, the great water system, of which this river forms such an important part, is regularly traversed by steamers plying between Buenos Ayres on the Rio de la Plata.

Paraguay, a republic of South America; bounded on the N. and N. E. by Brazil, on the S., S. E., and S. W., by the Argentine Republic, and on the N. W., by Bolivia; area, about 98,000 square miles; population about 600,000.

A mountain chain called Sierra Amamboy, running in the general direction of N. to S., and bifurcating the E. and W. toward the S. extremity, under the name of Sierra Maracayu, divides the tributaries of the Parana from those of the Paraguay, none of which are very considerable, though they are liable to frequent and destructive overflows. The N. portion of Paraguay is in general covered by low, gently-swelling ridges, separated by large grass plains, dotted with palms. There are mountains in the N. E. and N. W. corners. The S. portion is one of the most fertile districts of South America, consisting of hills and gentle slopes richly wooded, of wide savannas, which afford excellent pasture ground, and of rich alluvial plains, some of them marshy, or with shallow pools of water, but a large proportion are of extraordinary fertility and highly cultivated.

The climate is temperate, reaching as high as 100° in summer, but in winter being generally 45°. In recent statistics the number of cattle was estimated at 1,774,000; sheep, 117,250; horses, 182,853; goats, 49,670; mules and asses, 22,720; pigs, 35,160. The principal industry is the cultivation of tea. Other industries are tobacco, timber, and fruit-growing. Beans, maize, and mandioc are also largely cultivated. The principal articles imported are textiles, wines, and rice. The exports include yerba mate or Paraguay tea, tobacco, timber, and oranges.

On Nov. 25, 1870, a new constitution was proclaimed. There is a Congress composed of a Senate and a House of Deputies. The members of both houses are elected by popular vote at the ratio of one senator for every 12,000 inhabitants, and one representative for every 6,000 inhabitants. The executive authority is vested in a president, whose term of office is four years. There are five departments in the president's cabinet, viz., Interior, Finance, Justice and Worship, War, and Foreign Affairs.

Paraguay was discovered by Sebastian Cabot in 1526, but the first colony was settled in 1535 by Pedro de Mendoza, who founded the city of Asuncion. In 1810 Paraguay declared itself independent of Spain, and from that time to the present has existed as a republic ruled by dictators or presidents, some of whom have really been great despots. The inhabitants of the towns consist chiefly of whites, or of half-breeds, speaking Spanish. The native population of the provinces

are chiefly Guaranis, speaking the Guarani language. In 1865–1870 Paraguay was at war with the combined forces of Brazil, the Argentine Confederation, and Uruguay, and as a result of that struggle lost much territory and many inhabitants, and came virtually under the guardianship of the victors.

Parallax, the difference of direction of a body as seen from two different points. It is generally applied to the direction of the heavenly bodies as seen from the earth's center and from some point of its surface. The parallax is greater the nearer the body and the greater the distance between the points in a direction at right angles to that of the body. The term is also applied to the difference in direction of a body seen from different points of the earth's orbit, the longest diameter of which is insufficient in case of some fixed stars.

Parallel Lines, two straight lines are parallel to each other when they lie in the same direction. It follows from this definition, (1) that they are contained in the same plane; (2) that they cannot intersect how far soever both may be prolonged. Any number of straight lines are parallel to each other when they have the same direction, or when they are respectively parallel to a given straight line.

Paralysis, the loss of the natural power of sensation or motion in any part of the body. It is owing to some diseased condition of the nervous system, either of the brain or spinal cord, or of the nerves. If the nerves of sensation or their centers be affected, there will be loss of sensation; if of motion, then loss of motion; to the latter of which the term paralysis is by some exclusively applied. Each of these kinds may again be general or partial, or may have various degrees of severity. It may affect only one nerve or muscle, or it may affect a number. The most usual form is when one side or half of the body is deprived of sensation or motion, or both, called hemiplegia; paraplegia is when the lower part of the body is paralyzed, while the upper retains both sensation and motion; and general paralysis is when the loss of nervous power extends over nearly every part of the body.

Paramaribo, the capital of Dutch Guiana, on the Surinam, about 10 miles from its mouth. It has broad, tree-shaded streets, with clean wooden houses, painted light gray, and numerous canals and churches. There are also a governor's palace, two forts, a park, etc. The Herrnhuters (Moravian Brethren) are a strong body in the town. Except for the small harbor of Nickerie all the trade of the colony is concentrated at Paramaribo.

Parana, a river in South America, the largest except the Amazon, and draining a larger basin than any other river in the New World except the Amazon and the Mississippi. It is formed by the junction of two streams, the Rio Grande and the Paranahyba, which meet in Brazil, and it discharges itself into the estuary of the La Plata, its course latterly being through the Argentine Republic. Its length, from its sources to its junction with the Paraguay, is probably 1,500 miles, and thence to the sea 600 miles more. In breadth, current, and volume of water, the Parana has 10 times the magnitude of the Paraguay, which is itself superior to the greatest European rivers. It is an important waterway to the interior of the country.

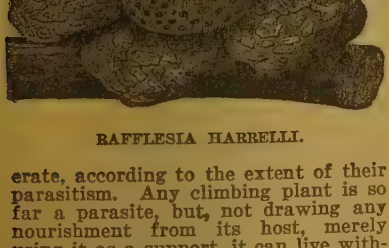
Paraphrase, a free translation or rendering of a passage; a restatement of a passage, sentence, or work, in which the sense of the original is retained, but expressed in other words, and generally more fully, for the purpose of clearer and fuller explanation; a setting forth in ampler and clearer terms of the signification of a text, passage, or word.

Parasite, in botany, the parasites on plants are either animals or vegetables. Some of the latter are of high organization, as loranthus and orobanche among exogens, and epiphytal orchids among endogens. Many cryptograms in certain ferns, mosses, lichens, and fungals are parasites. The roots of the more highly organized parasites penetrate the substance of the herb at whose expense they feed, and take up from it nutrient substances already in large measure assimilated. The lower parasites, by means of their cells, penetrate other cells to live in and on them. The former are more destructive to the plant.

In zoölogy, an animal which lives in, on, or at the expense of the actual substance of another. There is scarcely an animal which does not play the part of host to numerous parasites, and a very large number of the lower Invertebrata are parasitic at some stage of their existence.

Parasitic Diseases, diseases in which certain morbid conditions are induced by the presence of animals or vegetables which have found a place of subsistence within some tissue or organ, or on some surface of the body of man or other animals. Plants are not exempt from disorders of this nature.

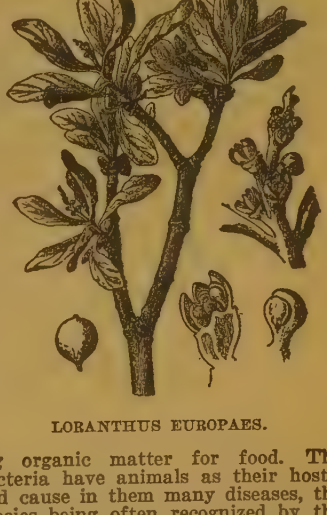
Parasitic Plants, those which unable to nourish themselves, prey upon other plants or animals; becoming attached, they gain access to the tissues of their host and feed upon its juices. They are more or less degen-



RAFFLESIA HARRELLI.

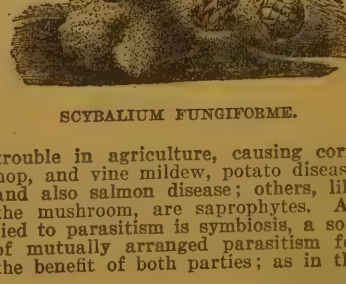
erate, according to the extent of their parasitism. Any climbing plant is so far a parasite, but, not drawing any nourishment from its host, merely using it as a support, it can live without it, and is perfect in all its parts. Many parasites have probably developed from such plants. The mistletoe, on the other hand, has no roots in the ground; its seed is left by a bird on an apple or an oak tree, to which when it begins to grow, it becomes attached by means of special organs, which act as roots and enable it to draw crude sap, water, and salts from its host, and having green leaves it can absorb carbonic acid from the air, and elaborate food for its tissues.

Nearly all plant parasites have a marked preference for a particular species of host, and they are all flowering plants. But there are many others; two whole classes, the bacteria and the fungi, are either parasitic or, what is much the same thing, saprophytic — i. e., dependent upon decay-



LORANTHUS EUROPAES.

ing organic matter for food. The bacteria have animals as their hosts, and cause in them many diseases, the species being often recognized by the disease. When they are saprophytic they cause fermentation and putrefaction. The fungi are many of them a

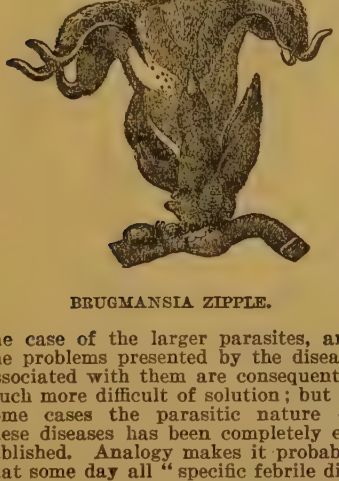


SCYBALIUM FUNGIFORME.

trouble in agriculture, causing corn, hop, and vine mildew, potato disease, and also salmon disease; others, like the mushroom, are saprophytes. Allied to parasitism is symbiosis, a sort of mutually arranged parasitism for the benefit of both parties; as in the

case of the lichens, which consist of algæ and fungi in partnership.

But the most important and interesting of the vegetable parasites are those belonging to the schizomycetes or bacteria, whose study has assumed such prominence that it is now almost an independent science. The relations of these organisms to their host are much more intimate than in



BRUGMANSIA ZIPPLE.

the case of the larger parasites, and the problems presented by the disease associated with them are consequently much more difficult of solution; but in some cases the parasitic nature of these diseases has been completely established. Analogy makes it probable that some day all "specific febrile diseases" will have to be included in this group.

Parchment, the skin of a very young calf, sheep, or goat, dressed and prepared for writing on, etc.

Pardee, Ario, an American philanthropist; born in Chatham, N. Y., in 1810. One of the pioneers of the Pennsylvania anthracite region, he amassed several millions as a coal operator. His donations to Lafayette College amounted to $500,000. He was active in various charitable movements. He died March 26, 1892.

Pardon. The pardoning power is a prerogative of the sovereign power in a State, whether representative or monarchical. In the United States the pardoning power for offenses against the general government is vested in the President, the authority being delegated by the people through the medium of the Constitution of the country. For offenses against the States the pardoning power is vested in the several governors, or in a few cases, the governor and State legislature, or one branch thereof, conjointly.

Parecis, a tribe or race of Indians in Brazil, formerly one of the most powerful in that region, but of whom only a few hundreds survive. They live in villages, farm their lands and are generally friendly to the whites.

Paregoric, the compound tincture of opium, benzoic acid, camphor, and oil of anise, every fluid ounce containing 2 grains each of opium and benzoic acid, and 1½ grains of camphor. This preparation is much used both by the profession and the public.

Parenis, or **Parenas,** a tribe of Indians now practically extinct, who lived in Venezuela, on the Orinoco. They belonged to the Arawak or Maypure linguistic stock.

Parent, a term of relationship applicable to those from whom we immediately receive our being.

Parenthesis, a sentence or part of a sentence inserted in the middle of another sentence, with the subject of which it is cognate, but from which it may be omitted without impairing the grammatical construction or the substantial meaning. It is commonly marked off by upright curved lines ( ), but frequently also by dashes — —.

Parentintims, a nomadic tribe of Indians of the Amazon valley. They subsist by hunting and fishing and by depredations on the plantations of other tribes. They are constantly at war with the Mundurucus.

Parepa-Rosa, Madame (Euphrosyne Parepa de Boyesku), a British operatic singer; born in Edinburgh, May 7, 1836; made her debut in Malta in 1855; first appeared in England in 1857 and in the United States in 1866. Her voice was a soprano of great power and compass and she was greatly admired in oratorio singing. She died in London, Jan. 21, 1874.

Paria, Gulf of, an inlet of the Atlantic on the N. E. coast of South America, between the island of Trinidad and mainland of Venezuela, in-

closed on the N. by the Peninsula of Paria. It possesses good anchorage, and receives some arms of the Orinoco.

Pariah. The lowest class among the people of Southern India. Hence a term applied to one utterly degraded and despised.

Parian Marble, a white, large-grained, and considerably translucent marble, called by the Greeks lychintes, from lychnos = light, because quarried by lamplight. It was the most celebrated statuary marble of antiquity, and was found in the island of Paros, also in Naxos and Tenos. The celebrated statues of the Venus de Medicis, the Venus Capitolini, etc., are made of this marble.

Parima, or **Parime Sierra,** a mountain range situated in the N. E. of Venezuela.

Pari Passu, with equal pace, steps, or progress. In law, a term signifying equally, in proportion; without undue preference; said especially of the creditors of an insolvent estate, who, with certain exceptions are entitled to payment of their debts in shares proportionate to the claims which they may have against the estate.

Paris (anciently, Lutetia Parisiorum), the capital of France and of the department of the Seine. The city lies in the Seine valley surrounded by heights. Through the valleys between these heights, the river runs from E. to W., inclosing two islands, upon which part of the city is built. It is navigable by small steamers. The quays or embankments, which extend along the Seine on both sides, being built of solid masonry, protect the city from inundation and form excellent promenades. The river, which within the city is fully 530 feet in width, is crossed by numerous bridges. The climate of Paris is temperate and agreeable. The city is divided into 20 arrondissements, at the head of which is a maire. Each arrondissement is divided into four quarters, each of which sends a member to the municipal council. The council discuss and vote the budget of the city. At the head is the prefect of the Seine and the prefect of police.

In the older parts of the city the streets are narrow and irregular, but in the newer districts the avenues are straight, wide, and well paved. What are known as "the boulevards" include the interior, exterior, and military. That which is specifically called "The Boulevard" extends, in an irregular arc on the N. side of the Seine, from the Place de la Bastille in the E. to the Place de la Madeleine in the W. Its length of nearly 3 miles forms the most stirring part of the city. Here may be noted also the magnificent triumphal arches of Porte St. Denis and Porte St. Martin, the former of which is 72 feet in height. On the S. side of the Seine the boulevards are neither so numerous nor so extensive.

Among the many public squares or places is the Place de la Concorde, one of the largest and most elegant squares in Europe, surrounded by fine buildings and adorned by an Egyptian obelisk, fountains, and statues. But the most extensive parks are outside the city. Of these the Bois de Boulogne, on the W., covers an area of 2,150 acres, gives an extensive view toward St. Cloud and Mount Valerien, comprises the race courses of Longchamps and Auteuil, and in it are situated lakes, an aquarium, conservatories, etc. The Bois de Vincennes, on the E., even larger, is similarly adorned with artificial lakes and streams, and its high plateau offers a fine view over the surrounding country.

Of the churches of Paris the most celebrated is the cathedral of Notre Dame, situated on one of the islands of the Seine, called the Ile de la Cite. It is a vast cruciform structure, with a lofty W. front, flanked by two square towers, the walls sustained by many flying buttresses, and the E. end octagonal. The whole length of the church is 426 feet, its breadth 164 feet. The foundation of Notre Dame belongs to the 6th century; the present edifice dates from 1163; but was restored in 1845. The interior decorations are all modern.

Notable among the public buildings of Paris are its palaces. The Louvre, a great series of buildings within which are two large courts, is now devoted to a museum which comprises splendid collections of sculpture, paintings, engravings, bronzes, pottery, Egyptian and Assyrian antiquities,

etc; the palace of the Tuileries, the Palais du Luxembourg, the Palais Royal, the Palais de l'Elysee, and many others. A notable and unique structure is the Eiffel Tower, built in connection with the Paris Exhibition of 1900, and which is to have a permanent existence. It is a structure of iron lattice-work, 984 feet high, and having three stages or platforms. It is as yet the highest building in the world.

The chief institution of higher education is the academy of the Sorbonne, where are the university "faculties" of literature and science, while those of law and medicine are in separate buildings. There are, besides, numerous courses of lectures in science, philology, and philosophy delivered in the College de France, and courses of chemistry, natural history, etc., in the museum of the Jardin des Plantes. There are numerous schools of secondary importance. The chief of the learned societies is the Institute of France.

The most important manufactures are articles of jewelry and the precious metals, trinkets of various kinds, fine hardware, paper hangings, saddlery, and other articles of leather, various articles of dress, silk and woolen tissues, particularly shawls and carpets, refined sugar, tobacco (a government monopoly), chemical products, etc. That which is distinctively Parisian is the making of all kinds of small ornamental articles, which are called articles de Paris.

According to approximate estimates the population of Paris was, in 1474, 150,000; under Henry II. (1547–1559), 210,000; under Louis XIV. (1643–1715). 492,600; in 1856 (before the annexation of the parts beyond the old city limits), 1,174,346; 1861 (after the annexation), 1,667,841; and is now over 2,500,000.

The first appearance of Paris in history is on the occasion of Cæsar's conquest of Gaul, when the small tribe of the Parisii were found inhabiting the banks of the Seine. It was a fortified town in A. D. 360, when the soldiers of Julian summoned him to fill the imperial throne. In the beginning of the 5th century it suffered much from the Northern hordes, and ultimately fell into the hands of the Franks. In 987 a new dynasty was established in the person of Hugh Capet, from whose reign downward Paris has continued to be the residence of the kings of France. In 1437 and 1438, under Charles VII., Paris was ravaged by pestilence and famine. Under Louis XI. a course of prosperity again commenced. In the reign of Louis XIV. the Paris walls were levelled to the ground after having stood for about 300 years, and what are now the principal boulevards were formed on their site (1670). Only the Bastille was left (till 1789), and in place of the four principal gates of the old walls, four triumphal arches were erected, two of which, the Porte St. Denis and Porte St. Martin, still stand. Many of the finest edifices of Paris were destroyed during the Revolution, but the work of embellishment was resumed by the directory, and continued by all subsequent governments. The reign of Napoleon III. is specially noteworthy in this respect; during it Paris was opened up by spacious streets and beautified to an extent surpassing all that had hitherto been effected by any of his predecessors. The most recent events in the history of Paris are the siege of the city by the Germans in the war of 1870–1871, and the subsequent siege carried on by the French national government in order to wrest the city from the hands of the Commune. Paris has been the scene of international exhibitions in the years 1855, 1867, 1878, 1889, and 1900.

Paris, a younger son of Priam, king of Troy. According to the more or less mythical story, he drew Helen, wife of King Menelaus, of Sparta, away from her husband, thereby provoking the expedition of the Greeks against Troy, and the destruction of that city, after a ten years' siege.

Paris, Declaration of. In 1856 the representatives of the Powers agreed to four points in international law: (1) Privateering abolished; (2) the neutral flag covers enemies' goods, excepting contraband of war; (3) neutral goods, with the same exception, are not liable to be seized even under an enemy's flag; (4) blockades, in order to be binding, must be effective. The United States refused to accept the first point, because the Eu-

ropean Powers declined to affirm that hereafter all private property should be exempted from capture by ships of war.

Paris, The, an American ship which was lost on Manacle rocks on the Cornwall coast, May 21, 1899. She had a crew of 350, with 481 passengers, making the total number aboard 831, all of whom were saved. The boat could not be detached from the rocks on which she struck, though all efforts were made to release her, and she finally went to pieces there. The history of the "Paris" was an eventful one. She was built at Glasgow in 1889. There was a double bottom throughout, and 15 water-tight compartments. She had twin screws propelled by separate sets of engines, each set being capable of driving the boat at 15 knots an hour. The "Paris" was built for an auxiliary cruiser of the Royal Naval Reserve, and the promenade deck was especially strengthened for that purpose. She was arranged to carry 14 guns. When fitted up for a passenger vessel her interior resembled that of a handsome hotel. There was a large library, a pipe organ, piano, and valuable furniture. The "City of Paris," was a steamer of the Inman line up to 1893, when she became an American ship. During the Spanish-American War the "Paris" became a United States cruiser under the name of the "Yale." Soon after her departure from Southampton to New York, to make ready for war, it was rumored that she had been captured by fast Spanish cruisers but she reached New York in safety. She was fitted up with guns and sailed for Southern waters under charge of Capt. J. S. Wise, U. S. N. The "Paris" was the first American warship in Porto Rico waters, being off San Juan at midday of May 8, 1898. She was used as a transport after doing efficient cruising service, and was returned to the American line, on Sept. 2, resuming her place in the merchant marine.

Paris, Treaties of. Of the numerous treaties bearing this designation a few only of the most important can be mentioned here. On Feb. 10, 1763, a treaty of peace was signed between France, Spain, Portugal, and England in which Canada was ceded to Great Britain. On Feb. 6, 1778, was signed that between France and the United States, in which the independence of the latter country was recognized. The treaty for the conclusion of peace between Russia on the one hand, and France, Sardinia, Austria, Turkey, and Great Britain on the other, at the end of the Crimean War, was ratified March 30, 1856. The treaty of peace with Germany, at the end of the Franco-German War, was concluded May 10, 1871, and modified by the convention of Oct. 12, 1871. The treaty between Spain and the United States at the end of the Spanish-American War was concluded Dec. 10, 1898; was ratified by the United States Senate, Feb. 6, 1899; was signed by President McKinley, Feb. 10, 1899; and by the Queen Regent of Spain, March 17, 1899.

Parish, a district marked out as that belonging to one church, and whose spiritual wants are to be under the particular charge of its own minister. In the United States a parish is a body of people united in one Church organization. In Louisiana the counties are called parishes.

Parish School, a name commonly given to the religious schools maintained in the United States by the Roman Catholic Church.

Park, Roswell, an American physician; born in Pomfret, Conn., May 4, 1852; was graduated at Racine College and at the Northwestern University Medical School in 1876. He has written various works on surgery, and attended President McKinley when he was shot.

Park, Roswell, an American miscellaneous writer; born in Lebanon, Conn., in 1807. He died in Chicago, Ill., in 1869.

Park College, a coeducational institution in Parkville, Mo.; founded in 1875; under the auspices of the Presbyterian Church.

Parke, John Grubb, an American military officer; born in Chester co., Pa., Sept. 22, 1827; was graduated at the United States Military Academy, July 1, 1849, and was assigned to the Corps of Engineers as brevet 2d lieutenant. From 1857 till the opening of the Civil War, he was chief astronomer and surveyor in the

demarkation of the N. W. boundary line between the United States and British America. He served through the Civil War; promoted Major-General of volunteers in 1862; brevetted Major-General, U. S. A., in 1865; promoted colonel, U. S. A., in 1884; and was retired July 2, 1889. From 1887 till his retirement he was superintendent of the Military Academy. He died in Washington, D. C., Dec. 16, 1900.

Parker, Alton Brooks, chief judge of the Court of Appeals of New York since Jan. 1, 1898; born in Cortland, N. Y., May 14, 1852; educated in the public schools, in Cortland Academy and Cortland Normal School. Was admitted to the bar, and practised at Kingston; was surrogate (the New York term for judge of probate) of Ulster county, 1877 to 1885; delegate to Democratic National Convention, 1884, when Grover Cleveland was nominated for President; in 1885 was offered the office of First Assistant Postmaster-General; was chosen chairman of the Democratic State Executive Committee in that year, and was also elected, the same year, Justice of the Supreme Court; member of the Court of Appeals, Second Division, 1889 to 1893; member of the General Term, Appellate Division, 1893–1897. Judge Parker is prominently mentioned in connection with the Democratic nomination for President of the United States in 1904.

Parker, James, an American lawyer; born in Newark, O., in 1832; was educated at the United States Naval Academy; served on board the "Saratoga" and the "Yorktown"; studied law in Cincinnati, O., and was admitted to the bar in 1857. He served with distinction in the Union navy during the Civil War, and in 1866 resigned his commission to take up the practice of admiralty law. He was one of the crew which, at the Washington Centennial celebration, rowed the barge containing President Harrison, from the "Despatch" to the foot of Wall street, New York city. In 1901 he was counsel for Rear-Admiral Schley in the Schley Court of Inquiry.

Parker, Joseph, an English preacher and orator; born April 9, 1830, in Hexham, Northumberland was educated privately and at University College, London; elected Chairman of the Congregational Union 1884; minister of the City Temple London, from 1869; author of "The People's Bible," a gigantic undertaking in 25 volumes. In the autumn o 1887 Dr. Parker visited the United States. He died November 29, 1902

Parker, Matthew, Archbishop o Canterbury; born in Norwich in 1504 was educated at Cambridge, and afte having been licensed to preach wa appointed dean of Stoke College i Suffolk. In 1544 he was appointe master of Corpus Christi College, Cambridge, and elected vice-chancellor o that university the following year When Queen Mary succeeded to the throne Parker was deprived of his offices, and remained in concealmen till the accession of Elizabeth in 1558 By royal command he was summoned to Lambeth, and appointed Archbisho of Canterbury. It was while he held this office that he had what is known as the Bishop's Bible translated from the text of Cranmer, and published a his own expense. He died in 1575.

Parker, Theodore, an American theologian; born in Lexington, Mass. in 1810. He entered Harvard College in 1830. In 1834 he entered the Theological School; he was chosen, in 1837 minister of a Unitarian congregation at West Roxbury, his marriage having taken place just previously. He had there leisure for study; he visited Europe in 1843. The prejudice against him led to his quitting West Roxbury and settling at Boston in 1846, as minister of the Twenty-eighth Congregational Society. He distinguished himself as the fearless opponent of the Fugitive Slave Law and sheltered slaves in his own house. Early in 1859 he was compelled to relinquish his duties and seek health in France and Italy. He died in Florence in 1860.

Parker, Willard, an American physician and surgeon; born in New Hampshire, in 1800; he made many important discoveries in practical surgery. He died in 1884.

Parkhurst, Charles Henry, an American clergyman and reformer; born in Framingham, Mass., April 17, 1842. He was graduated at Amherst College in 1866; studied theology in

Germany. After 1880 he was pastor of the Madison Square Presbyterian Church. In 1891, as president of the Society for the Prevention of Crime, he began his attack on the police department of New York city, and was prominent in the investigation which followed.

Parkman, Francis, an American historian; born in Boston, Mass., Sept. 16, 1823; was graduated at Harvard in 1844; studied law for two years; then traveled in Europe; and returned to explore the Rocky Mountains. The hardships he endured among the Dakota Indians seriously injured his health, yet in spite of this and defective sight Parkman worked his way to recognition as a historical writer on the period of rise and fall of the French dominion in America. He died in Boston, Mass., Nov. 8, 1893.

Parliament, the title of the British legislature, consisting of a House of Lords and House of Commons.

Parnassus, a famous mountain of Greece, government of Phocis, N. W. of Mount Helicon. It has three peaks, the highest of which reaches an elevation of 8,068 feet. On the W. side lay Delphi, the seat of the famous oracle, and the fountain of Castalia. The highest peak was dedicated to Bacchus, and was the scene of the orgies of his worship. The rest of the mountain was sacred to Apollo and the Muses; hence, poets were said "to climb Parnassus."

Parnell, Charles Stewart, an Irish statesman; born at his father's estate of Avondale, Wicklow co., Ireland, in 1846. His mother was the daughter of Admiral Stewart of the United States navy. He was educated at Magdalen College, Cambridge; became member of Parliament in 1875; organized the "active" Home Rule Party, and developed its obstruction tactics; and in 1879 formally adopted the policy of the newly formed Land League, was an active member of it, and was chosen president of the organization. In 1880 he was returned for the City of Cork, and was chosen as leader of the Irish party. In the session of 1881 he opposed the Crimes Act and the Land Act; was arrested (Oct. 13), under the terms of the former, along with other members of his party; and was lodged in Kilmainham jail, from whence he was not released till the following May. In 1883 he was the recipient of a large money testimonial (chiefly collected in America), and in this year was active in organizing the newly formed National League. At the general election of 1885 he was reëlected for Cork, and next year he and his followers supported the Home Rule proposals introduced by Mr. Gladstone, while he also brought in a bill for the relief of Irish tenants that was rejected. In 1887 he and other members of his party were accused by the "Times" of complicity with the crimes and outrages committed by the extreme section of the Irish Nationalist party. To investigate this charge a commission of three judges was appointed by the government in 1888, with the result that, after considerable evidence had been given on both sides, a report was laid before Parliament in February, 1890, Mr. Parnell being acquitted of all the graver charges. He died in Brighton, England, Oct. 6, 1891.

Parody, a kind of writing in which the expression, form, and style of a serious composition are closely imitated, but treated in a humorous or burlesque manner; a burlesque imitation of a serious composition; a travesty or burlesque in which the form and expression of the original are closely adhered to.

Parole, a word of promise; a word of honor; faith plighted; specifically a promise given by a prisoner on his honor that he will not attempt to escape if allowed his liberty, or that he will return to custody on a certain day if released.

Paros, one of the larger islands of the Cyclades division of the Greek Archipelago; a low pyramid in shape, it has an area of 64 square miles; pop. nearly 7,000, of whom some 2,200 live in the capital, Parœkia. The quarries of the famous white Parian marble are near the summit of Mount St. Elias (ancient Marpessa), and are not yet exhausted.

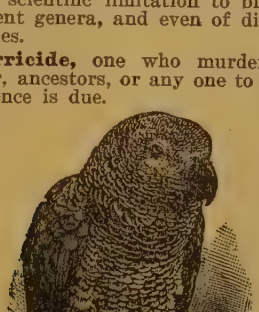
Parotid Glands, a pair of glands situated, one on each side of the cheek, near the junction of the upper and lower jaws. Their chief function is the secretion of pure saliva through

the parotid duct, to assist in the processes of mastication and deglutition.

Parr, Catharine, the 6th wife of King Henry VIII.; daughter of Sir Thomas Parr; born in 1512. Married first to one Edward Borough, possibly Lord Borough, and afterward to Lord Latimer, she on July 12, 1543, became queen of England by marriage with Henry VIII. She persuaded Henry to restore the right of succession to his daughters, and interested herself on behalf of the universities. After Henry's death she married (1547) Sir Thomas Seymour, and died in the following year.

Parrakeet, or **Parakeet,** a popular name for any of the smaller long-tailed parrots. The word is in common use, but is applied without any strict scientific limitation to birds of different genera, and even of different families.

Parricide, one who murders his father, ancestors, or any one to whom reverence is due.



GRAY PARROT.

Parrot, the popular name for any individual of a well-known group of birds from the warmer regions of the globe, remarkable for the brilliant, and in some cases gaudy, coloration of their plumage, and the facility with which many of them acquire and repeat words and phrases.

Parrot Fish, or **Parrot Wrasse,** a genus of fishes. The name seems to refer to the frequently bright colors, and partly to the shape of the mouth; for the jaws form a strong and sharp beak, and the teeth are soldered together. Over 100 species are known.

Parrott Gun, a kind of rifled cannon invented by Capt. R. G. Parrott of the Cold Spring Foundry, West Point, N. Y., and much employed in the United States during the Civil War. The body of the gun is of cast iron and is reinforced at the breech by shrinking on a ring of wrought iron. The number of grooves increased with the caliber of the gun, the 10-pounder having three.

Parrott, Robert Parker, an American inventor; born in Lee, N. H., Oct. 5, 1804; was graduated at the United States Military Academy in 1824; commissioned a lieutenant, he served through the Creek war, and was afterward assigned to the Ordnance Bureau at Washington. After his resignation, he invented the well-known Parrott gun. He died in Cold Spring, N. Y., Dec. 24, 1877.

Parry, Sir William Edward, an English navigator; born in Bath in 1790. He entered the navy in 1803, and in 1818 accompanied Sir John Ross, as second in command, to Baffin's Bay, in an expedition for the discovery of the Northwest Passage. This expedition returned to England unsuccessful. The year following Lieutenant Parry was appointed to the command of the "Hecla" and "Griper" for a similar object; and this voyage resulted in the discovery of a considerable portion of the Northwest Passage, the ships wintering at Melville's Island. Captain Parry afterward commanded two other expeditions, but the nature of the ice on both occasions obliged the ships to return. In 1827 he again commanded the "Hecla" in an attempt to reach the North Pole. The ship was left at Spitzbergen, and Parry with his boats succeeded in reaching the highest latitude attained up to that time (82° 45′), but the drift of the ice S. prevented further advance. He died in 1855.

Parsees, or **Guebres,** the name of the small remnant of the followers of the ancient Persian religion, as established or reformed by Zoroaster.

The Parsees of India bear equally with their poorer brethren in Persia the highest character. Their general

ppearance is to a certain degree pre-ossessing, and many of their women re strikingly beautiful. Zend, the oly language, is used by the priests, ho, as a rule, have no more knowledge f it than the laity. Conspicuous mong Parsee merchant-princes was Sir Jamsetjee Jejeebhoy. In 1881 there were 73,760 Parsees in British India, wo-thirds living in Bombay.

Parsees do not eat anything cooked by a person of another religion; they also object to beef and pork, especially to ham. Marriages can only be contracted with persons of their own caste and creed. Their dead are not buried, but exposed on an iron grating in the Dakhma, or Tower of Silence till the flesh has disappeared, and the bleaching bones fall through into a pit beneath, from which they are afterward removed to a subterranean cavern.

Ahura-Mazdao being the origin of light, his symbol is the sun, with the moon and the planets, and in default of them the fire. Temples and altars must for ever be fed with the holy fire, brought down, according to tradition, from heaven, and the sullying of whose flames is punishable with death. The priests themselves approach it only with a half mask over the face, and never touch it but with holy instruments. But however great the awe felt by Parsees with respect to fire and light they never consider these as anything but emblems of divinity. There are two main sects among them, as well as Conservatives and Liberals in usage, the latter allowing many innovations resisted by the others.

Parsley, an aromatic herb found on walls, and in waste places, as a garden escape. There are three leading varieties of the plant, the common or plain-leaved, the curled, and the carrot-rooted parsley. The second is that more generally cultivated as a culinary vegetable.

Parsnip, a common garden vegetable. The boiled root eaten; sheep and oxen fatten rapidly upon it; a kind of wine may be made from it; its seeds are aromatic and contain an essential oil.

Parsons, Albert Ross, an American pianist and musical critic; born in Sandusky, O., Sept. 16, 1847.

Parsons, Mrs. Frances Theodora (Smith) (Dana), an American writer; born in New York in 1861.

Parsons, Lewis Baldwin, an American military officer; born in Genesee co., N. Y., April 5, 1818; was graduated at Yale College in 1840 and at the Harvard University Law School in 1844; served through the Civil War; was chief of river and railroad transportation of the National armies; and was brevetted Major-General of volunteers in 1866.

Parsons, Theophilus, an American jurist; born in Essex co., Mass., Feb. 24, 1750; was graduated at Harvard College in 1769, and studied law at Falmouth (now Portland), in Maine, where he was admitted to the bar in 1774; but he afterward removed to Newburyport. He was a member of the convention which, in 1779, framed the State constitution of Massachusetts and was also a member of the convention called to ratify the Constitution of the United States in 1789. In 1800 he removed to Boston. He was appointed in 1806 chief justice of Massachusetts. As a lawyer he probably has few, if any, superiors in the United States. He died in 1813.

Parsons, Theophilus, an American author, son of the preceding; born in Newburyport, Mass., in 1797; was graduated in 1815 at Harvard College, where he became in 1847 Dane Professor of Law. He died Jan. 20, 1882.

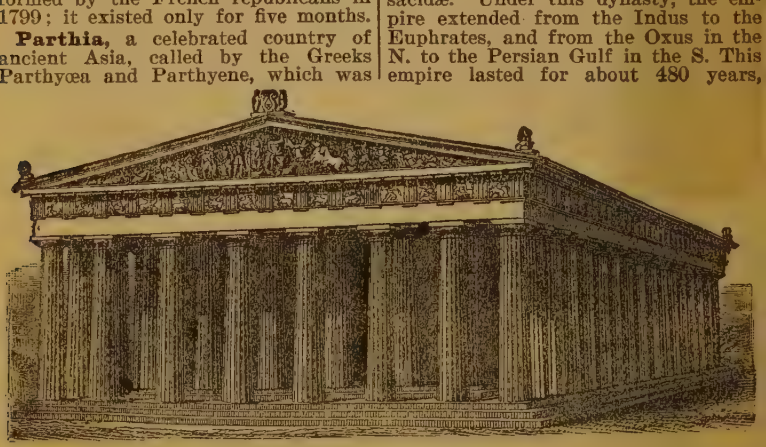
Parsons College, a coeducational institution in Fairfield, Ia.; founded in 1875, under the auspices of the Presbyterian Church.

Parthenon, a celebrated temple at Athens, consecrated to Athena or Minerva, the protectress of the city, built on an elevated rock near the Acropolis, and has always been regarded as the most exquisite and perfect example of Grecian architecture. The Parthenon was erected about 448 B. C., in the time of Pericles, Phidias being the chief sculptor. It had a length of 228 feet, by a breadth of 100; it had eight columns beneath each pediment, and 15 on each side, exclusive of those at each end of the pediments, with which they formed 16 intercolumns, or 46 columns in all, exclusive of those within the building.

This magnificent fane had resisted the ravages of time down to the 17th century, being by turns a pagan temple, a Christian church, and also a Turkish mosque, till at the siege of Athens by the Venetians, in 1687, a shell fell on the roof of the Acropolis or citadel, which, firing the magazine beneath, shattered that building and the Parthenon into blackened ruins.

Parthenopean Republic, the name given to the State into which the Kingdom of Naples was transformed by the French republicans in 1799; it existed only for five months.

Parthia, a celebrated country of ancient Asia, called by the Greeks Parthyœa and Parthyene, which was bounded N. by Hyrcania, S. by Carmania Deserta, E. by Asia, and W. by Media. Parthia was a mountainous country of great extent, having 20 large cities, of which the chief, and capital of the country, was Hecatompylon — so named from having 100 gates. When Parthia rose in the scale of nations and became a powerful state, the empire of Parthia was made up of conquered kingdoms, extending from the Caucasus in the N. to the Erythræan Sea in the S., and from the Indus in the E. to the Tigris in the W. The Parthians, originally an offshoot from the Scythians, were noted for their love of war and martial glory. The Parthians became subject to Persia; and their country, with Sogdiana and some other states, was formed into a province called a satrapy. When Alexander conquered Persia, he united Parthia and Hyrcania into one satrapy. After the dissolution of the Greek empire, the country became subject to Eumenes; next, to Antigones and the Syrian kings till 256 B. C., when, throwing off the yoke of their tyrant masters, the Parthians established their independence under one of their own chiefs, Arsaces I., from whom all their succeeding monarchs received the name of Arsacidæ. Under this dynasty, the empire extended from the Indus to the Euphrates, and from the Oxus in the N. to the Persian Gulf in the S. This empire lasted for about 480 years, when the last king, Artabanus, was murdered by a chief called Artaxerxes, a descendant of the founder of the empire, who, usurping the throne, established the new Persian dynasty called the Sassanidæ.



THE PARTHENON RESTORED.

Participle, a part of speech, so called because it partakes of the nature both of a verb and an adjective. A participle differs from an adjective in that it implies the relation of time, and therefore is applied to a specific act, while the adjective denotes only an attribute as a quality or characteristic without regard to time.

Partnership, the state or condition of being a partner, associate, or participator with another; joint interest in any undertaking.

Parton, James, an American writer; born in Canterbury, England, Feb. 9, 1822. He wrote many valuable biographies. He died in Newburyport, Mass., Oct. 17, 1891.

Parton, Sara Payson Willis, "Fanny Fern," an American essay-writer, sister of N. P. Willis, and wife of James Parton; born in Portland, Me., July 9, 1811. She is said to have contributed an article each week for 16 years to the New York "Ledger." She died in Brooklyn, N. Y., Oct. 10, 1872.

Partridge, a well-known game bird widely distributed. The partridge prefers open grounds, and often nests in exposed situations. It feeds on slugs, caterpillars, and grubs to a large extent, and so compensates the farmer for any injury it does.

Partridge, William Ordway, an American sculptor and writer on art; born in France, in 1861.

Partridge Berry, a plant of the heath family, inhabiting North America, also known as wintergreen. The name is also applied to another North American shrub, a pretty little trailing plant, with white fragrant flowers and scarlet berries.

Pascal, Blaise, a French author; born in Clermont, Auvergne, France, in 1623. From his earliest childhood he exhibited precocious proofs of genius, especially in mathematics. Having been purposely kept in ignorance of geometry his self-prompted genius discovered for itself the elementary truths of the forbidden science. At 12 years of age, he was surprised by his father in the act of demonstrating, on the pavement of an old hall where he used to play, by means of a rude diagram traced with a piece of coal, a proposition which corresponded to the 32d of the first book of Euclid. At the age of 16 he composed a small treatise on conic sections, which excited the mingled incredulity and admiration of Descartes. At 19 he invented his celebrated arithmetical machine, and at the age of 26 he had composed the greater part of his mathematical works, and made brilliant experiments in hydrostatics and pneumatics, which ranked him among the first natural philosophers of his age. But a strong religious impulse having been imparted to his mind at this period, he suddenly renounced the career to which his genius invited him, and devoted himself to theology and to the promotion of the spiritual and temporal welfare of his fellow men. After a short interval spent at Paris, he retired to Port Royal in 1654, where he spent the remainder of his days. Died in 1662.

Paschal II., Pope; a native of Tuscany, succeeded Urban II. in 1099. He had a contest with the Emperor Henry IV., respecting the right of investitures. Henry visited Rome, to be crowned by the Pope, who refused to perform the ceremony unless he yielded the matter in dispute. On this Henry caused Paschal to be seized by his troops and retired from Rome. Paschal, after a captivity of two months, conceded his claim to the investitures. He died in 1118.

Pasha, or **Pashaw,** a Turkish title of honor bestowed originally on princes of the blood, but now also on governors of provinces, military officers of high rank, etc.

Passenger Pigeon, also called wild pigeon and migratory pigeon. It is found from the Atlantic to the great central plains, and from the Southern States, where it only occasionally occurs, to 62° N.

PASSENGER PIGEON.

Passes, a tribe of Indians living in Brazil on the N. side of the Amazon, about the mouth of the Japura. They have always been friendly to the whites and are a peaceful, industrious race, many of whom lived in the mission villages in the 18th century. They are a branch of the great Arawak or Maypure stock.

Passiflora, the passion-flower. Generally climbing herbs or shrubs. Fruit succulent, seeds many. Found chiefly in tropical America. The three stigmas seemed to the devout Roman Catholics of South America to represent nails; one transfixing each hand, and one the feet of the crucified

Saviour; the five anthers, His five wounds; the rays of the corona, His crown of thorns, or the halo of glory around His head; the digitate leaves, the hands of those who scourged Him; the tendrils, the scourge itself; while, finally, the 10 parts of the perianth were the 10 apostles — that is, the 12 wanting Judas who betrayed, and Peter who denied, his Lord.

Passionists, a congregation of Roman Catholic priests founded by Paul Francis (1694–1775), surnamed Paul of the Cross, in 1737. The first convent was established on the Celian Hill at Rome. It has been revived since 1830, and they have been introduced lately in the United States, where they now possess four monasteries.

Passion Play, a mystery or miracle play founded on the passion of our Lord; a dramatic representation of the scenes of the passion. The only Passion play still kept up is that periodically represented at Oberammergau in Bavaria.

Passover, a festival instituted to commemorate Jehovah's "passing over" the Israelite houses while "passing through" those of the Egyptians, to destroy in the latter all the first-born. The first passover (that in Egypt), those subsequently occurring in Old Testament times, and those of the New Testament and later Judaism, were all somewhat different. In the first of these a lamb without blemish was taken on the 10th, and killed on the 14th, of the month Abib, thenceforward in consequence to be reckoned the first month of the ecclesiastical year. The blood of the lamb was to be sprinkled on the two side posts and the single upper door post, and the flesh eaten "with unleavened bread and bitter herbs" before the morning. That night Jehovah, passing over the blood-stained doors, slew the first born in the Egyptian houses not similarly protected; and, as the emancipated

PASSION FLOWER.

Jews that night departed from Egypt, that first passover could have continued only one day. But the festival was to be an annual one. Connected with it was to be a feast of unleavened bread, continuing seven additional days, viz., from the 15th to the 21st of Abib, during which no leaven was to be eaten, or even allowed to be in the house.

Sometimes the term passover is limited to the festival of the 14th of

Abib; sometimes it includes that and the feast of unleavened bread also, the two being viewed as parts of one whole. When the Jews reached Canaan, every male was required to present himself before God thrice a year, viz., at the passover, or feast of unleavened bread, at that of "harvest" and that of "ingathering." In the Old Testament six passovers are mentioned as having been actually kept: That in Egypt, that in the wilderness, that under Joshua at Gilgal, that under Hezekiah, that under Josiah, and that under Ezra. After the exile wine was introduced. In modern Judaism no lamb is sacrificed, but the shank bone of a shoulder of that animal is eaten, leaven put away, and other ceremonies observed. Using passover in the sense of the paschal lamb, St. Paul applies the term to Christ, of whose death that of the paschal lamb was typical.

Passport, a warrant of protection and authority to travel, granted to persons moving from place to place, by a competent authority. In some states no foreigner is allowed to travel without a passport from his government. In the United States passports, with description of the applicant, are issued by the State Department at Washington. They are good for two years from date, renewable by stating the date and number of the old one. They are issued only to citizens, native born and naturalized.

Pasteur, Louis, a French chemist and physicist; born in Dole, Jura, in 1822; educated at Jena University and the Ecole Normale, Paris, where in 1847 he took his degree as doctor. He has been especially successful in proving the part played by microbes in fermentation and decomposition, in introducing a successful treatment of diseases in silkworms and cattle, and has achieved great success in his efforts to check hydrophobia by means of inoculation. To enable him to deal with this disease under the best conditions a Pasteur Institute was opened in Paris, where patients are received from all parts of Europe. A similar institution, in New York city, has proved very successful. He died in Paris, Sept. 28, 1895.

Pastor, a shepherd; now used almost exclusively in its figurative sense, for one who feeds the Christian flock; a minister of the Gospel, having charge of a church and congregation. In ornithology the rose-colored ousel. It has a wide geographical range, and in habits resembles the starling. It is often called the locust bird.

Pastoral Poetry, poetry which deals, in a more or less direct form, with rustic life.

Pastoral Staff, in the Roman Catholic Church the official staff of a bishop or abbot. The pastoral staff of an archbishop is distinguished by being surmounted by a crozier.

PASTORAL STAFF.

Pastoureaux, the name given to those persons who took part in certain risings in France in the 13th and 14th centuries. These outbreaks took place:

(1) In Berry in 1214. The peasantry pillaged chateaux and religious houses, and proclaimed universal equality and the coming of the Holy Ghost.

(2) In 1250; the ostensible objects were the rescue of Louis VII. and the recovery of the Holy Sepulcher. The rising originated in Flanders, under the leadership of a person of unknown name called the Master of Hungary, who, when he reached Paris, was at the head of 100,000 men. Here they not only usurped priestly functions, performed marriages, distributed crosses, offered absolution to those who joined the crusade, but they inveighed against the vices of the priesthood. They separated into three divisions, and marched S., where they were attacked and cut to pieces.

(3) In 1320, in the reign of Philip V. This outbreak took place under the pretense of a crusade. The insurgents were excommunicated by Pope John XXII.; and being hemmed in in Carcassonne, numbers perished of disease

and famine, and the survivors were put to death.

Patagonia, the name applied to that extreme portion of South America which is bounded E. by the Atlantic, W. by the Pacific, S. by the Strait of Magellan, and N. by the Rio Negro. Since 1881 this large territory has been, by treaty, divided between Chile and the Argentine Republic, so that the portion W. of the Andes (63,000 square miles) belongs now to the former, and the portion E. of the Andes (360,000) belongs to the latter. The Straits of Magellan form a S. boundary of 360 miles, and separate the mainland from the numerous islands of Tierra del Fuego. Here the Chilean government has established the settlement of Punta Arenas, with stations along the coast. Patagonia E. of the Andes consists mainly of vast undulating plains, frequently covered with shingle and broken up by ridges of volcanic rock. The vegetation is scanty, except in the region adjoining the Andes, and in many places there are shallow salt lakes and lagoons. The chief rivers are the Rio Negro, the Chupat, the Rio Desire, and the Rio Chico, all of which have their sources in the Andes, and run E. There are few if any good seaports. The Patagonians are a tall, muscular race averaging fully six feet in height, with black hair, thick lips, and skin of a dark brown color. They are a nomad race, divided into numerous tribes, whose chief occupation is in hunting and cattle breeding. This native population is rapidly disappearing. Colonization is encouraged by the Argentine government, and there are many tracts suitable for European settlement. The country was first discovered by Magellan in 1520.

Pate de foie gras, a dish made from the enlarged livers of overfed geese, and much relished by epicures. It is made in the form of a pie, and from its oily nature is very indigestible, and nauseous to most people.

Patent, an exclusive right granted by a government (in letters patent or open, whence the name) to any person or persons to manufacture and sell a chattel or article of commerce of his own invention. In the United States the person applying for a patent may present a petition, specification, oath, and filing fee, with a drawing if the nature of the case admits of it. On favorable action by the patent office, letters granting to the patentee, his heirs, or assigns, for the term of 17 years, of the exclusive right to make, use, and vend the invention or discovery throughout the United States and the Territories thereof, are issued. Design patents are granted for periods of three years and six months, seven years, or 14 years, at discretion of the applicant. Patents are extended only by special congressional legislation. The filing of a caveat prior to applying for a patent entitles the inventor to notice of an interfering application filed during the life of the caveat (one year), during which he may perfect his invention. The alleged inventions set forth in caveats are transferable. Special facilities are given American inventors for securing patents in foreign countries, by a provision for keeping an application in the secret archives of the patent office for six months, to enable the inventor to arrange foreign patents.

By the statute of 1870 it was enacted that an invention to be patentable, must possess, among other qualifications, that of newness. He who produces an old result by a new mode or process is entitled to a patent for that mode or process; but he cannot have a patent for a result merely without using some new mode or process to produce it. A man is entitled to all the benefit of the article which he has invented and patented. Another who happens to discover an additional use to which the invention may be applied does not, by that discovery and application create a patentable novelty. A simple alteration in the form, size, material or proportions of an existing device is not such a change as to produce a patentable novelty. As a cumulative definition it may be said that novelty consists in producing a new substance, or an old one in a new way, by new machinery, or by a new combination of the parts of an old machine, operating in a peculiar, better, cheaper or quicker method, or by a new mechanical employment of principles already known.

Paterson, a city and county-seat of Passaic co., N. J., on the Passaic river, 16 miles N. W. of New York. The city is chiefly noted for its silk industries, on account of which it is called the "Lyons of America." It is built partly on the slopes of ranges of hills which surround it, and partly on a broad plain. On Feb. 2–3, 1902, the business portion of the city was destroyed by fire, entailing a loss of over $10,000,000. The principal municipal buildings, churches, banks, public library, and the largest stores were swept away by the flames.

Paterson is an important manufacturing center. Its silk mills are the largest in the United States having an output of over $22,000,000 per annum, and employing about 12,000 persons. Its other manufactures include locomotives, paper, jute, machinery, iron, and steel, engines, boilers, etc. The assessed property valuation exceeds $48,000,000, and the total bonded debt was about $4,000,000.

The city has an area of 8 square miles; 200 miles of streets, of which 55 miles are paved; and a sewer system covering 55 miles. The streets are lighted by gas and electricity. The annual cost of maintaining the city government exceeds $1,500,000. The streets are well paved and broad. Among the local attractions are the Passaic Falls, 72 feet high.

Paterson was founded in 1791 by a cotton manufacturing society which owed its origin to Alexander Hamilton. This society had a capital of $1,000,000, with which it intended to lay the foundation of a great National manufacturing city. The city was named in honor of Gov. William Paterson of New Jersey. In 1851 it was incorporated as a city. Paterson has recently been visited by floods as well as fire, the flood of October, 1903, being especially calamitous, but the people have faced and overcome these disasters with unfailing courage. Pop. (1900) 105,171.

Paterson, William, an English financier; born in Dumfriesshire, England, in 1665. He resided in the Bahama Islands. Returning to London he engaged in trade with success, and in 1694 founded the Bank of England, being one of its first directors. In 1695 he obtained the sanction of a Scotch act of Parliament constituting the Darien Company. After the failure of this scheme he returned to England. When the Treaty of Union between England and Scotland was concluded in 1707, Paterson, who was one of its warmest advocates, after much difficulty received an indemnity of $90,000 for the losses he had sustained. He died in London in 1719.

Pathology, the branch of medical science which treats of disease. It investigates its predisposing and existing cause, its characteristic symptoms, and its progress from first to last.

Patmos, a rocky and barren island, of most irregular outline, in the Ægean Sea, one of the Sporades, lying to the S. of Samos, now called Patino; area, 16 square miles. It is celebrated as the place to which the apostle John was exiled; in a cave here, it is said, he saw the visions recorded in the Book of Revelation. The island is under Turkish rule, but is inhabited by about 4,000 Greeks.

Patna, called also Azimabad, a city of Bengal, 140 miles E. of Benares, extends 9 miles along the Ganges and 2 miles back from the river; the streets are narrow and crooked, and the houses mostly mean in appearance. Patna, under its early name of Pataliputra, is supposed to have been founded about 600 B. C. It was visited by Magesthenes, the Greek historian, about 300 B. C., and called Palibothra by him. In modern times Patna is notable as the scene of a massacre of British prisoners by Mir Kasim in 1763, which led to war and annexation by the English, and for the mutiny at Dinapur, the military station of Patna in 1857. Patna ranks as the seventh city of India in point of population. Pop. 165,192.

Paton, John Gibson, a Scotch missionary; born in Kirkmahoe, Dumfriesshire, Scotland, May 24, 1824. He offered his services for the foreign mission field in connection with the Reformed Presbyterian Church, and on his ordination he settled toward the end of 1858 among the cannibal natives of Tanna. Here he labored amid trials and difficulties till 1862, when he was forced to leave, owing to the hostility

of the natives. For the next 20 years his work was on the neighboring island of Aniwa, the whole population of which became Christian. In 1891 he was made a D. D. of Edinburgh.

Paton, Sir Joseph Noel, a Scotch historical painter; born in Dunfermline, Scotland, in 1821. He gained one of three premiums at the Westminster competition by his fresco of the "Spirit of Religion," and a prize of $1,500 by his paintings "Christ Bearing the Cross," and "The Reconciliation of Oberon and Titania." He died in Edinburgh, Dec. 26, 1901.

Patriarch, the father and ruler of a family; one who governs his family or descendants by paternal right. The term is usually applied to Abraham, Isaac, Jacob, and his sons, or the heads of families before the flood. In Roman Catholic Church history, the highest grade in the hierarchy of ordinary jurisdiction, the see of Rome excepted.

Patrician, a Roman senator; a person of noble birth; a nobleman; a wealthy noble. The Roman patricians consisted of about 300 houses, or clans, who, descending from the first Roman senators, constituted the aristocracy of the city and territory. At first the patricians monopolized all high offices in the state, but after political contests with the plebeians, lasting for centuries, Licinius (365 B. C.) carried his rogation, by which plebeians were admitted to the consulate, and to the custody of the Sibylline books.

Patrick, St., or **Patricius,** the apostle or patron saint of Ireland; said to have been born near the site of Kilpatrick, Scotland. His zeal prompted him to cross the channel for the conversion of the pagan Irish. His arrival in Ireland took place probably between 440–460. His endeavors were crowned with great success, and he established there a number of schools and monasteries. He died at an advanced age.

Patrol, or **Patrole,** a walking or marching round of a guard in the night to watch and observe what passes, and to secure the peace and safety of a camp or other place.

Patron, in Roman history, one who had manumitted a slave between whom and his manumissor a new relation was created, the freedman owing his former master the obedience of a son, and the patron assuming many of the rights which the power of patron conveyed.

Patron Saint. According to Roman Catholic and Greek belief, the saint under whose invocation countries, churches, religious houses or societies, or individuals are placed.

BADGE OF THE ORDER OF ST. PATRICK.

Patten, George Washington, an American poet; born in Newport, R. I., Dec. 25, 1808. Educated at the United States Military Academy, he served in the Mexican and Seminole wars. He died in Houlton, Me., April 28, 1882.

Patterson, Joseph, an American banker; born near Norristown, Pa., Sept. 25, 1808. During the Civil War through his influence the bankers of the country made a loan of $50,000,000 in gold to Secretary Chase, and

$100,000,000 more in the year following. He died in Philadelphia, Pa., Sept. 25, 1887.

Patterson, Robert M., an American clergyman and author; born in Philadelphia, Pa., July 17, 1832; was official reporter of the United States Senate in 1850–1855; was graduated at Princeton Theological Seminary in 1859; and pastor South Presbyterian Church, Philadelphia, in 1867–1880. He was a member of the Pan-Presbyterian Councils in London in 1875, Philadelphia, in 1880, and Belfast, Ireland, in 1884.

Patti, Adelina Maria Clorinda, a popular operatic singer of Italian extraction; born in Madrid, Spain, in 1843. After a course of professional study she sang at an early age in New York. Her debut in London took place in 1861, and she was ever afterward looked upon as one of the first singers of the day. In 1868 she was married to the Marquis de Caux, from whom she was divorced in 1876. She subsequently married M. Nicolini, and appeared in the United States, South America, and Mexico at various times. M. Nicolini died in 1898. She married Baron Rolf Cederstrom, Jan. 25, 1899, and made a tour of the United States in the latter part of 1903. Her residence is Craig y Nos Castle, Wales.

Patti, Carlotta, a popular Italian concert singer and sister of Adelina Patti; born in Florence, Italy, in 1840; made her debut in New York in 1861, and in England in 1863. She gave concerts throughout Europe and America with great success. She was married Sept. 3, 1879, to Ernest de Munck, a violoncellist of Weimar, and died in Paris, June 27, 1889.

Pattison, Thomas Harwood, an American educator; born in Cornwall, England, Dec. 14, 1838. For many years he was Professor of Homiletics and Pastoral Theology at Rochester (N. Y.) Theological Seminary.

Patton, Francis Landey, an American educator; born in Warwick Parish, Bermuda, Jan. 22, 1843. He was educated at Knox College and the University of Toronto, and was graduated at Princeton Theological Seminary in 1865. In 1865–1871 he was pastor of several churches; in 1881 was appointed Professor of Relations of Philosophy and Science to the Christian Religion in Princeton University, the chair having been especially created for him. Seven years later he was chosen president of the university.

Patton, Frank Jarvis, an American inventor; born in Bath, Me., in 1852; was graduated at the United States Military Academy in 1877; invented the multiplex telegraph system and the gyroscope now used on ocean vessels to determine their position at sea. He died in New York city, Nov. 12, 1900.

Patton, Jacob Harris, an American historian; born in Fayette co., Pa., May 20, 1812.

Paul IV., Pope; Giovanni Pietro Caraffa; born in Naples, in 1476; succeeded Marcellus II., in 1555. He established a censorship, and completed the organization of the Roman Inquisition. His foreign relations, involved him in much labor and perplexity. Under the weight of so many cares, his great age gave way, and he died in 1559.

Paul V., Pope; Camillo Borghese; born in Rome, in 1552; was elected in 1605, after the death of Leo XI. He embellished Rome with many excellent works of sculpture and painting, and an aqueduct. He was the founder of the Borghese family, one of the wealthiest in Italy. He died in 1621.

Paul I., Emperor of Russia; born in 1754. He was the only son of Peter III. and his wife, Catherine II. He married the Princess Mary of Wurtemberg in 1776. On the death of Catherine in 1796 he was proclaimed emperor. He joined the second coalition against France; and Russian armies appeared in Italy, Switzerland, and Holland. But he afterward withdrew from it, and entered into friendly relations with Napoleon. A conspiracy was formed against him, with Count Pahlen at its head, and he was murdered in his bedroom, March 24, 1801.

Paul, St., one of the apostles of Jesus Christ; originally called Saul; a Hebrew of the tribe of Benjamin, and a native of Tarsus, the capital of Cilicia, and was born at the beginning of the Christian era. His father was a Pharisee of the most rigid cast, and

Paul himself, up to the time of his conversion, was a most bitter and intolerant persecutor of the Christian sect; even assisting at the martyrdom of St. Stephen. The mode of his conversion is fully detailed in the New Testament. After his conversion, he was baptized at Damascus by Ananias; from whence, after a brief sojourn, he proceeded to Arabia, where he received the Holy Ghost. He was martyred about A. D. 66.

Paul, Epistles of, St. There are 14 epistles in the New Testament usually ascribed to Paul, beginning with that to the Romans, and ending with that to the Hebrews.

Paulding, James Kirke, an American author; born in Dutchess co., N. Y., Aug. 22, 1779. He early showed a tendency to literature. In 1837 Van Buren appointed him Secretary of the Navy. Four years later he retired to a country residence at Hyde Park, N. Y., where he died, April 6, 1860.

Paulist Fathers, a modern American society of the Roman Catholic Church, founded in New York by the late Rev. Isaac T. Hecker, in 1858. It is composed of 37 priests who are engaged in missionary and literary work. The superior, Rev. George Deshon, is a graduate of the United States Military Academy.

Paulownia, a genus of trees with but one species; a native of Japan, and now grown in the United States.

Paulus Hook, Fort, a Revolutionary fortress erected by the British on the site of Jersey City, N. J.

Pauncefote, Julian, Lord, an English diplomatist; born in Preston Court, Gloucestershire, England, in 1828. He was the first delegate to the Suez Canal International Commission at Paris in 1885. In 1889 he was appointed British minister to the United States and four years later the legation was raised to an embassy. He negotiated the settlement of the Bering Sea dispute; the Anglo-Venezuelan boundary arbitration, and was chief of the British delegates to the Peace Conference at The Hague in 1899. He also negotiated with the United States two conventions for the abrogation of the Clayton-Bulwer Treaty. He died May 24, 1902.

Pavement, the hard covering of the surface of a road or footway; a floor or covering of stones, brick, wood, etc., laid evenly on the earth, so as to form a level, hard, and convenient passage.

Pawnbroker, one who is licensed to lend, or make a business of lending money on goods pawned or pledged.

Pawnees, a tribe of American Indians who formerly resided in Nebraska, with branches extending into Kansas and Texas. They surrendered their lands S. of the Platte by treaty in 1833; suffered much thereafter at the hands of their hereditary enemies, the Sioux; and in 1876 removed, only 2,026 strong, to a reservation of 283,020 acres in Indian Territory. In 1899 their number had decreased to 706.

Paxton, Sir Joseph, an English architect and horticulturist; born in Milton-Bryant, near Woburn, Bedfordshire, Aug. 3, 1803. He began life as a gardener. He designed the Crystal Palace at Sydenham and superintended its construction. He died in Sydenham, June 8, 1865.

Payaguas, an Indian tribe of Paraguay, now numbering only a few hundred, who live in the Chaco region near Asuncion. They are very dark in color and are of a low grade of savages, living in the swamps and subsisting on fish and alligators.

Paymaster, an officer of the army and navy, from whom the officers and men receive their wages, and who is intrusted with money for that purpose.

Paymaster-General, in the United States, a title given to (1) the chief paying officer of the War Department, who ranks as a Brigadier-General; (2) a similar officer in the Navy Department, who ranks as a rear-admiral, and (3) a corresponding staff officer in the militia of a State.

Payn, James, an English novelist; born in Cheltenham, England, in 1830; was graduated at Cambridge in 1854. His works reach upwards of 100 books. He died in London, March 25, 1898.

Payne, Henry Clay, an American jurist; born in Ashfield, Mass., Nov. 23, 1843; was graduated at Shelburne Falls Academy (Mass.) in 1859; settled in Milwaukee in 1863; practised law in Chicago, Ill., in 1883–1893;

was president of the Chicago Law Institute in 1889; judge of the Superior Court of Cook co., Ill., in 1893–1898. On Dec. 16, 1901, he was appointed Postmaster-General of the United States.

Payne, John Howard, an American dramatist; born in New York, June 9, 1792. At the age of 16 he made his first appearance at the Park Theater. He also played in England and Ireland, a part of the time with Miss O'Neill. In 1851 was appointed United States consul to Tunis. He wrote, translated and adapted over 60 plays, but is most famous as the author of "Home, Sweet Home," originally in the opera of "Clare." He died in Tunis, April 10, 1852.

Paz Soldan, Marino Felipe, a Peruvian geographer and historian; born in Arequipa, Peru, in August, 1821. He was director of public works, and twice minister of justice. He died in Lima, Dec. 31, 1886.

Peabody, Elizabeth Palmer, an American writer and educator; born in Billerica, Mass., May 16, 1804. She became a teacher in Boston in 1822; and was one of the first to introduce the kindergarten system in the United States. She died in Jamaica Plain, Mass., Jan. 4, 1894.

Peabody, George, an American philanthropist; born in Danvers, Mass., in 1795. He became chief clerk, and, afterward, partner with his uncle, John Peabody, in Georgetown, D. C., in 1812. Not satisfied with their business relations, George left his uncle and joined partnership with Mr. Elisha Riggs in the drygoods business in Baltimore, in 1815. His business increasing, he found occasion to make frequent visits to England, where he finally settled in 1829. In 1837 he withdrew from the firm, and established himself as banker in London, where he amassed a fortune. He was particularly devoted to promoting education. He died in London, in November, 1869.

Peabody, Education Fund. In 1867 and 1869 George Peabody established a fund of $3,500,000, to be devoted to education in the Southern States of the Union. The fund was placed in the charge and control of 15 trustees, who hold meetings annually, usually in New York. In its earlier history the chief aim of the fund was to encourage and secure the establishment of public school systems for the free education of all children. That having been accomplished, the income of the fund is now used for the training of teachers through normal schools and teachers' institutes. In the 34 years since the organization of the trust, over $2,744,755 for education has been spent, as the income of the sum left by Mr. Peabody.

Peace Conference. After the secession of several of the States of the American Union in 1860, Virginia, on Jan. 1, 1861, invited the remaining States to send delegates to a conference in Washington, with the object of devising a plan whereby all difficulties then existing might be peaceably settled. The conference met on Feb. 4. Fourteen free States and seven slave States were represented, and ex-President John Tyler was made the presiding officer. A committee of one from each State was appointed to draw up a report of "what they may deem right, necessary and proper, to restore harmony and preserve the Union." Several minority reports were presented, but the majority report was adopted. It recommended a number of amendments to the Constitution. This report was offered to the Senate, which refused to act upon it, and it met a similar fate in the House, neither party being satisfied with it.

Peace Congress, Universal, an international gathering at The Hague, held in response to an invitation of Nicholas II., Czar of Russia, beginning May 18, 1899, in which the United States took part, and which framed a plan, since approved by the powers, for a permanent Tribunal of Arbitration.

Peace Society, The, an organization founded in 1816; has for its object the promotion of permanent and universal peace. It welcomes the support of Christians of all denominations, and also of those persons who oppose war on humanitarian or other grounds. The society has always advocated a gradual, proportionate, and simultaneous disarmament by all the nations of Europe, and the principle of arbitration, and claims as partly due to its efforts that this mode of set-

tling international difficulties has been adopted with increasing frequency and acceptance.

Peach, the delicious fruit of the peach tree. Many varieties are cultivated in the United States, and form an important branch of commerce.

Peacock, specifically, the common peacock, a native of India, domesticated in the United States.

Peacock Butterfly, a beautiful butterfly, two and one-half, or two and three-quarter inches across the wings. It is seen in numbers on the tops of nettles, in June and July. The perfect insect appears in August, lives through the winter, and is seen in March and April.

Peale, Charles Willson, an American miscellaneous writer; born in Maryland, April 16, 1741. He attained distinction as a portrait painter, and naturalist. He died in Philadelphia, Feb. 22, 1827.

Peale, Rembrandt, an American artist; born in Bucks co., Pa., Feb. 22, 1778. When 17 years old executed a portrait of Washington, from whom he had three sittings; it was purchased by Congress. He died in Philadelphia, Pa., Oct. 3, 1860.

Pear, a shrub or small tree, 20 to 40 feet high, with the branches more or less spinescent and pendulous, and the fruit pyriform, one or two inches long, becoming larger and sweeter in cultivation. Many hundred cultivated varieties exist.

Pea Ridge, a post village in Benton co., Ark.; about 8 miles E. of Bentonville. Here, on March 6, 7, and 8, 1862, occurred one of the most desperate battles of the Civil War. Gen. Samuel B. Curtis, in command of about 11,000 Union troops, with 49 pieces of artillery, was attacked by a superior force of Confederates (said to number 20,000) under Gen. Earl Van Dorn, and a series of obstinate and sanguinary conflicts ensued; often favoring each army with temporary success, finally ended with the withdrawal of Van Dorn.

Pearl, a peculiar product of certain marine and freshwater mollusks or shellfish. The most famous pearls are those from the East; the coast of Ceylon. They are, however, obtained now of nearly the same quality in other parts of the world. These, and indeed all the foreign pearls used in jewelry, are produced by the pearl oyster.

Pearly Nautilus, common in the Pacific and Indian Oceans, especially toward the Moluccas. It is believed to inhabit both deep and shallow water. The shell is imported into the United States for its fine mother-of-pearl, much in request with cabinet makers and jewelers.

Pearsons, Daniel Kimball, an American philanthropist; born in Bedford, Vt., April 14, 1820; was graduated at the Medical College of Woodstock, Vt.; practised medicine till 1857; then became successively a farmer in Illinois, real estate agent in Chicago. In 1888, he retired from business and devoted himself to philanthropic enterprises.

Peary, Robert Edwin, an Arctic explorer and civil engineer in the United States navy; born in Cresson, Pa., May 6, 1856; was graduated at Bowdoin College, and in 1885 became a civil engineer in the United States navy, with the rank of lieutenant. In 1886 he made a journey of reconnoisance to Greenland, advancing for over 100 miles on the interior ice. In 1891 and 1893 he made other trips to the Polar regions, in which he was accompanied, as far as the winter quarters, by his wife, Josephine Diebitsch Peary. In these expeditions he made excursions on a sledge along the coast of Greenland, and traversed the inland ice from McCormick Bay to the N. E. angle of Greenland (Independence Bay). He proved the convergence of the E. and W. coasts of Northern Greenland, and almost with positiveness the insularity of the mainland. He discovered new lands (Melville Land and Heilprin Land), and named many glaciers. In May, 1896, Lieutenant Peary made a successful expedition to Greenland for the purpose of collecting specimens in natural history. He returned to Cape Breton, Sept. 27. In 1897 he was given leave of absence by the government for the purpose of continuing his explorations in the northern seas, and to establish a station in the far N. of Greenland, which should be provisioned and supplied and made the basis of a series of annual expeditions into the Polar regions. In pursuance of this project he

went N. in the summer of 1897 to take the necessary preliminary measures, such as securing the aid of the Eskimos, fixing the site of a station, etc. He returned in October of that year, bringing with him an immense mass of meteoric iron, or what is supposed to be such, from Cape York, Greenland, which was placed in the Museum of Natural History in New York city. On July 3, 1898, Lieutenant Peary again sailed on a search for the North Pole, going in the steamer "Hope" from St. John's Newfoundland, to Sidney, Cape Breton, and from there to Cape York, Baffin's Bay. At that place the party and stores were transferred to the "Windward," which has made several Arctic voyages. They carried provisions for four years. In September, 1901, word was received from Peary that he had rounded the Greenland archipelago (the extreme N. land known), and reached lat. 83° 50′ N. He established his headquarters for the winter of 1901–1902 at Cape Sabine, with the plan of again attempting to reach the North Pole in the spring of 1902. He made a most courageous and dangerous effort to carry out that purpose, going on sledges over the ice until open water and icefloes made it impossible to proceed. Then, about April 10, 1902, he found it impossible to proceed, and returning to Cape Sabine, he started back on the "Windward" with his wife and young daughter in August, arriving home safely.

Peat, a deposit formed in bogs by the decay of vegetable matter, frequently consisting almost entirely of sphagnum, or bog moss. In composition it differs from coal only in the relative proportion of its constituents. During the American coal famine of 1902–1903 peat was used to some extent as fuel.

Peattie, Mrs. Elia Wilkinson, an American journalist; born in Michigan, in 1862; connected with the Chicago press.

Peba, called also the black tatou, an armadillo ranging from Texas S. to Paraguay.

Pecan, or **Pecan Nut,** a species of hickory and its fruit, growing in North America.

Peccary, the popular name for two species of small suilline mammals from the New World, nearly allied. The collared peccary ranges from Arkansas S. to the Rio Negro, and seldom attacks other animals. The white-lipped peccary is rarely met with N. of British Honduras, or S. of Paraguay. It associates in large droves, is very pugnacious, and does not hesitate to attack man. The hunter who encounters a herd of this species has often to take to a tree for safety.

PECCARY.

Peck, George Wilbur, an American humorist; born in Henderson, N. Y., Sept. 28, 1840. Governor of Wisconsin, in 1891–1895. In 1883 he published "Peck's Bad Boy and his Pa," a humorous book which attained immediate popularity.

Peck, Harry Thurston, an American critic; born in Stamford, Conn., Nov. 24, 1856; was graduated at Columbia College, and Professor of Latin in that institution, now Columbia University.

Peck, Samuel Minturn, an American poet; born in Tuscaloosa, Ala., in 1854. He was educated at the University of Alabama, and later studied medicine in New York.

Pecos River, a river of New Mexico and Texas, which has a S. E. course of about 800 miles, and falls into the Rio Grande del Norte, but in summer is generally dry.

Pedagogue, in classical antiquity, a slave who led his master's children to school, places of amusement, etc., till they became old enough to take care of themselves. A teacher of young children; a schoolmaster.

Pedro I., Dom Antonio Jose D'Alcantara, Emperor of Brazil,

eldest son of John VI., King of Portugal, elder brother of Don Miguel, and nephew to Ferdinand VII., King of Spain: born in 1798, and was taken, in 1808, with the rest of the royal family, to Brazil. In 1822, the Brazilians having proclaimed their independence, chose Pedro for their emperor. **The death of John VI.** in 1826, left Don Pedro the crown of Portugal. After abdicating the crown of Portugal in favor of his daughter, **Donna Maria**, he nominated his brother, **Don Miguel**, regent; but scarcely had he quitted Portugal, than Don Miguel took possession of the throne. In 1831 he was compelled to abdicate the throne of Brazil in favor of his son, Dom Pedro II. Returning to Europe, he raised troops in France and England, with which he, in 1833, drove Don Miguel from the throne of Portugal, and placed the crown upon the head of his daughter. He was twice married; his first wife being Maria Leopoldina, Archduchess of Austria, and the second, Amelia, daughter of Prince Eugene de Beauharnais. He died in 1834.

Pedro II., Emperor of Brazil: born in Rio Janeiro, in 1825; succeeded to the throne on the abdication of his father, Dom Pedro I., in 1831; and married the Princess Theresa Christina Maria (died 1890), sister of Francis I., King of Naples, in 1843. He made several visits to Europe; assisted President Grant in opening the Centennial Exposition in Philadelphia in 1876; and was deposed by the revolution of November, 1889. He died in 1891, in Paris, France.

Peebles, James Martin, an American physician: born in Whittingham, Vt., March 23, 1822; was graduated at the Pennsylvania University of Medicine and Surgery. He was a member of the Northwest Congressional Indian Peace Commission in 1868; United States consul to Trebizonde, Turkey, in 1870; and represented the United States Arbitration League at the International Peace Conference in Berlin.

Peebles, Mrs. Mary Louise (Parmalee), "Lynde Palmer," an American author: born in Lansingburg, N. Y., Dec. 10, 1823.

Peel, Sir Robert, an English statesman: son of Sir Robert Peel, a wealthy manufacturer: born in 1788, and studied at Harrow and Oxford. When just 21 years of age he entered Parliament, and thenceforth the sphere of his exertions and triumphs was in the House of Commons. In 1811 he was made under-secretary for the colonies, and in 1812, when only 24, he received the appointment of chief secretary for Ireland. After carrying his celebrated currency measure of 1819, he became, in 1822, home secretary. He became prime minister in 1841. He died in 1850, of internal injuries caused by a fall from a horse.

Peele, John Thomas, an American artist: born in Petersborough, England, in 1822; settled in New York city in 1835; early manifested a genius for portrait painting and went to Europe to study; returned to New York in 1846. Later, he devoted himself to genre painting, becoming a specialist in studies of child life. He died in 1897.

Peepul, or **Pipal**, also known as the Sacred Fig of India, a species of fig, somewhat resembling the banyan, but the branches not rooting like those of that tree. The tree is held sacred by the Hindus, because Vishnu is said to have been born under it.

Peet, Stephen Denison, an American clergyman and archæologist: born in Euclid, O., Dec. 2, 1830. He became a Congregational minister, and an authority on the works of the mound builders and American archæology in general.

Peirce, Benjamin, an American mathematician: born in Salem, Mass., April 4, 1809; studied at Harvard, where in 1833 he became professor. His paper on the discovery of Neptune attracted universal attention, and his papers on the constitution of Saturn's rings were equally remarkable. He died in Cambridge, Mass., Oct. 6, 1880.

Pekan, Pennant's marten, a North American species, about four feet long, it often steals the fish used to bait traps, whence it is sometimes called the fisher.

Peking, or **Pekin**, the capital of the Chinese empire, province of Chihli, or Pechili, in a vast sandy plain, between the Pei-ho and its important affluent, the Hoang-ho, 582 miles N. W. of Nankin, and 100 miles W. N.

W. of the Gulf of Pechili, in the Yellow Sea. It consists of two contiguous cities, each separately surrounded by walls, and together entered by 16 gates. The entire circumference is 25 miles. The northern city, which is nearly a perfect square, consists of three enclosures. The outer one is used by Chinese traders. The second enclosure contains the residences of the dignitaries of the empire and foreign legations, the national literary institutions, and the temples of Ancestors and Peace, and is inhabited mostly by the Manchus. The inner enclosure, or "forbidden city," surrounded by walls of yellow tiles, 2 miles in circumference, hence called the "Yellow Wall," contains the palaces of the emperor and empress. The southern city, called the Wai-ching, or "outer city," is also square, and occupied by the Chinese, and is both the seat of business and the residence of most of the population. The wall is 30 feet high, 25 feet thick at the base, and 12 feet at the top. That of the imperial city is 40 feet high. The principal streets are very wide and regular, running between opposite gates. The houses are generally one story high, and built of brick. Of the ornamental buildings, the most conspicuous are those commonly called triumphal arches. They consist of a large central gateway, with small ones on each side, all covered with narrow roofs, and like the houses are splendidly gilded, varnished, and painted. Peking is indebted for its importance to its being the residence of the emperor and the seat of government. The country round the city being sandy and poor, a large portion of its supplies are brought from a distance — partly from sea by the Pei-ho, but principally by the Grand canal and the Eu-ho, which connect it with Nankin, and most of the E. provinces. The early history of Peking is involved in obscurity. Kublai Khan rebuilt it, and made it his capital in 1260. The Mongol dynasty, founded by Kublai Khan, continued to occupy this city till it was expelled from China, in 1367. In 1421, the third emperor of the Chinese dynasty of Ming transferred his residence thither from Nankin, since which it has been the capital of the empire. During the "Boxer" uprising of 1900 the various foreigners in Peking were besieged in the English legation. For weeks they were given up as lost, but they managed to hold out till the arrival of the foreign troops. Pop. (about) 1,700,000.

Pelagians, a sect that arose about the beginning of the 5th century. Their founder was Pelagius, a monk, a native of Britain, whose original name was Morgan. He is said to have been characterized by great earnestness of character and moral strictness of life. He was condemned by the church authorities, and driven into exile.

Pelagic Sealing, the taking of seal in the open sea.

Pelamis, a genus of sea snakes, with a single species, ranging from Madagascar to New Guinea, New Zealand, and Panama.

Pelasgian, one of an ancient and widely diffused prehistoric tribe which was the common parent of the Greeks and of the earliest civilized inhabitants of Italy. The origin of this people is lost in myth. Traces of them are found in Asia Minor and Italy. The term Pelasgi was used by the classic poets for the Greeks in general. Some Albanian tribes are supposed to be of Pelasgic descent.

Pelew Islands, or **Palau,** a group in the Pacific formerly belonging to Spain, lying S. E. of the Philippines, at the W. extremity of the Caroline Archipelago, with which they are sometimes classed. There are about 200 islands, and surrounded with coral reefs. Total area, 170 square miles. The principal is Babelthouap or Babeltop. The soil is rich and fertile, and the climate healthy. Bread fruit, cocoanuts, sugar cane, palms, areca nuts, yams, etc., are grown. Turtles, trepang, and fish abound on the coasts. The inhabitants, about 10,000 in number, are of the Malay race. The men go entirely naked and the women nearly so. They are described as being good-natured, and have peculiar social institutions. The islands were discovered by the Spaniards in 1543, and visited again in 1696. In 1899 Spain sold this group, with the Carolines and all of the Ladrones excepting Guam, to Germany.

Pelias, the adder, or common viper. No teeth in upper maxillaries, except

the poison fangs; a row of small teeth on the palatine bone, on each side of the palate.

Pelican, a large piscivorous water fowl, with an enormous pouch dependent from the flexible branches of the lower mandible, but capable of being contracted when not in use as a depository for food. The species are widely distributed, and frequent the shores of the sea, rivers, and lakes, feeding chiefly on fish, which they hunt in shallow water, the pelican of the United States being the only species which dives for its prey. The common pelican is about the size of a swan, though its enormous bill and loose plumage make it look considerably larger; it is white, slightly tinged with flesh color, and the breast feathers become yellow in old birds.

Pelican, The, the ship in which Sir Francis Drake made his voyage around the world. He left Plymouth with four ships besides the "Pelican," Nov. 15, 1577, and completed his journey Sept. 15, 1580. The "Pelican" was the only ship he brought back with him, and it was for a long time carefully preserved by order of Queen Elizabeth. When finally broken up a chair was made from its timbers by John Davis, the Arctic navigator, which is now in the Bodleian Library.

Pellissier, Aimable Jean Jacques, Duke of Malakoff, a marshal of France; born near Rouen in 1794. He entered the army at the age of 19, and distinguished himself in Africa and was created Lieutenant-General in 1848 and was called in 1855 to take a command in the Crimea under General Canrobert, whom he soon superseded as Commander-in-Chief. He distinguished himself in the successful attack on Kertch, in the battle of the Tchernaya, and above all in the storming of the Malakoff Tower at Sebastopol, Sept. 8, 1855. He was soon after created Marshal and Duke of Malakoff. In 1858 he was ambassador to London; was subsequently appointed governor-general of Algeria, and died there in 1864.

Pellagra, a disease common among the peasantry of Northern Italy, the Asturias, Gascony, Rumania, and Corfu, caused by living on maize affected by a parasitic fungus.

Pellico, Silvio, an Italian patriot; born in Saluzza, in Piedmont, in 1789. In early life he gained considerable distinction as a writer for the stage; and his tragedy, "Francesca da Rimini," may still be read with interest. In 1819 he became connected with the press, at the same time that he was tutor in the family of Count Porro; and in 1820 he was seized as a carbonaro by the Austrians at Milan, and confined in the fortress of Spielberg, for 10 years. The volume on which his fame rests tells the story of his imprisonment. Released by the amnesty of 1830, he found shelter at Turin, and was employed as librarian in the house of the Marchesa Barolo till he died. His imprisonment had ruined his health, and he took no further part in politics. He died in 1854.

Pelopidas, a Theban general, the friend of Epaminondas and the associate of his victories. When the Spartans conquered Thebes, Pelopidas went to Athens, where he assembled his exiled countrymen, with whom he returned, seized on Thebes, and expelled the invaders. Afterward he defeated the Lacedæmonians at Tegyra, and shared with Epaminondas the victory of Leuctra. Pelopidas being sent ambassador to Alexander, the tyrant of Pheræ, was thrown into prison; but on the appearance of Epaminondas he obtained his release. He next went to the court of Persia, and after his return commanded the forces sent to the relief of Thessaly, where he fell in 364 B. C.

Peloponnesus, the ancient name of the Morea. Among its most important cities were the Sparta in Laconia, and Argos the capital of Argolis. Sparta acquired, after the Messenian war, a decided supremacy over the other states, and disputed the supremacy with Athens in a war of almost 30 years' duration (431–404 B. C.) — the famous Peloponnesian War, of which the history has been written by Thucydides. After the Roman conquest, the Peloponnesus formed part of the province of Achaia, and subsequently belonged to the Byzantine empire.

Pelvis, the lower portion of the great abdominal cavity.

Pemba, a coral island off the E. coast of Africa; 50 miles N. E. of

Zanzibar Island, length 46 miles, breadth 4½; area, 372 square miles. There are numerous bays on the E. coast; on one of them stands the chief town, Chaka. The inhabitants, 10,000 in number, rear cattle and trade in rice, cloves, and ebony, all products of the island. It was transferred by the Sultan of Zanzibar to the British East Africa Company in 1891.

Pemberton, Max, an English novelist; born in Birmingham, England, June 19, 1863. He was a contributor to "Vanity Fair," and editor of "Chums," a boys' paper, and in charge of "Cassell's Magazine." He has published a number of stories of adventures.

Pen, an instrument for writing with a fluid. Pens of some sort have been in use from very early times, adapted to the material on which the characters were to be inscribed. The metallic stilus for the production of incised letters was probably the earliest writing implement. It was used by the Romans for writing on tablets coated with wax; but both they and the Greeks also used what is the true ancient representative of the modern pen, namely, a hollow reed, as is yet common in Eastern countries. It has been asserted that quills were used for writing as early as the 5th century A. D. In 1803 Wise produced steel pens of a barrel form, mounted in a bone case for carrying in the pocket. They were of indifferent make, and being expensive, were very little used. Joseph Gillott commenced the manufacture about 1820, and succeeded in making the pen of thinner and more elastic steel, giving it a higher temper and finish. Mr. Gillott was followed into the same field by Mr. Perry and others, and their improvements so reduced the cost and raised the quality, that a gross of better pens are now sold by the same makers at less than one-sixth of the price of a single pen in 1821. Gold pens tipped with minute particles of iridium are now in extensive use, and a good one will last for years. Fountain pens and penholders, to carry a considerable supply of ink and to discharge it in an equal manner, were invented by Joseph Bramah.

Penal Laws, laws which prohibit an act, and impose a penalty for the commission of it.

Penal Servitude, a form of punishment in English criminal law, substituted, in 1853, for the punishment of transportation. It consists in imprisonment with hard labor for a term of years, from two up to the duration of life. The term is not used in the United States.

Penance, in Roman Catholic theology and ritual: 1. The virtue which inclines the soul to detest sin for its own sake — that is, because it is an offense against God. 2. The outward acts by which sorrow for sin is evinced. 3. The satisfaction which a priest imposes on the penitent before giving absolution, often called sacramental penance.

Penang, Pulo-Penang, or Prince of Wales Island, an island belonging to Great Britain, lying at the N. entrance of the Straits of Malacca, off the W. coast of the Malay Peninsula, from which it is separated by a channel 2 to 5 miles across; area, 107 square miles. Penang was made over by treaty to the East India Company in 1786 by the Rajah of Quedah, and with Province Wellesley, a long strip of the Malay Peninsula opposite (area, 270 square miles), it now forms one of the Straits Settlements, having a resident councillor to control administration. Pop. 235,618.

Penates, the Roman gods of the storeroom and kitchen. The family hearth, which formerly stood in the atrium, was their altar, and on it their images, two in number, were placed, with the image of the Lar between them. These penates were represented dancing and elevating a drinking horn in token of joy and plenty. The calends, nones, and ides of each month were set apart for their worship, as were the caristra (Feb. 22) and the saturnalia. Each family had its own penates, and the State had its public penates. The origin of these gods is extremely doubtful. As was the case with the Lares, their name was a synonym for home.

Pencil, a name applied to instruments for writing, drawing, or painting, differing as much in their construction as in the use to which they are applied.

Pendleton, George Hunt, an American statesman; born in Cincin-

nati, O., July 25, 1825. He acted as congressman from 1856 to 1865, having been elected on the Democratic ticket. He was a candidate for the vice-presidency on the Democratic ticket in 1864, with George B. McClellan. Before his appointment as United States minister to Germany by President Cleveland, in 1885, he represented Ohio in the United States Senate, and was an exponent of civil service reform. He died in 1889.

Pendleton, Louis (Beauregard), an American novelist and writer of juvenile literature; born in Georgia in 1861. His works deal principally with Southern scenes and characters.

Penelope, a celebrated Grecian princess, daughter of Icarius, wife of Ulysses (Odysseus), and mother of Telemachus. According to the Homeric legend, Ulysses, during his long wanderings after the fall of Troy, was generally regarded as dead, and Penelope was vexed by the urgent suits of many lovers, whom she put off on the pretext that she must first weave a shroud for Laertes, her aged father-in-law. To protract the time, she undid by night the portion of the web she had woven by day. When the suitors had discovered this device, her position became more difficult than before; but fortunately Ulysses returned in time to rescue his chaste spouse from their distasteful importunities.

Penguin, aquatic birds confined to the high S. latitudes of both hemispheres, where they congregate in large flocks. The body is generally elliptical; neck of moderate length; head small, bill moderately long, straight, compressed; tail short. They have no quills in their wings, which are as rigid as the flippers of a cetacean, and utterly useless for flight, though they move freely at the shoulder joint, forming most efficient paddles, and are usually worked alternately with a rotatory motion. In standing, the penguin preserves an upright position, generally resting on the tarsus, which is widened like the foot of a quadruped; but in progressing this is kept nearly vertical, and the weight supported on the toes alone.

Peninsular Campaign, the name of the campaign conducted by General George B. McClellan in 1862, on the peninsula between the York river and its tributaries and the James river.

Peninsular War, the war carried on in the beginning of the 19th century in Spain and Portugal by the British forces, aided by the native troops, against the French. Sir Arthur Wellesley, afterward the Duke of Wellington, landed, with 10,000 British troops, at Figueras, in Portugal, Aug. 1–3, 1808, and on the 21st defeated the French at Vimiera. On August 30, the Convention of Cintra was signed, by which Junot agreed to evacuate the country. Wellesley returning home, the command of the army, now increased to 20,000 men, was given over to Sir John Moore, who was forced by Soult to fall back on Corunna, where a battle was fought on Jan. 16, 1809, in which the former lost his life. Wellesley again received command of the army, and, after a series of sanguinary and generally successful combats, drove the French across the Pyrenees, entering France on Oct. 7, 1813.

PENGUIN.

Penitentiary, a prison in which convicted offenders are confined and

subjected to a course of discipline and instruction with a view to their reformation. Misdemeanants and persons guilty of lesser felonies are confined therein.

Penitentiary, one of the offices of the Roman Catholic Curia, taking special cognizance of matters relating to the confessional, and dispensations from such impediments to marriage as are not diriment. The dignitary who presides over the office described above. He is a cardinal priest, and must be a doctor of theology or canon law.

Penn, Sir William, an English admiral who greatly distinguished himself against the Dutch in the 17th century: born in Bristol in 1621, entered the navy at an early period, and was captain at the age of 23. After the restoration he was knighted, and died in Essex in 1670.

Penn, William, founder of the State of Pennsylvania; son of the preceding; born in London, Oct. 13, 1644. He turned Quaker, was taken up for preaching, and sent to prison; but was released through the interest of his father; was sent to the Tower, on account of a book which he had written; and, while there, he composed his principal work, entitled "No Cross, No Crown," intended to show the benefit of suffering. On his release, he resumed his former labors, and was apprehended, with some others, and tried for preaching at a conventicle in Gracechurch Street. The jury persisted in finding them not guilty, and were fined for acting contrary to the dictates of the judge. In 1681 he obtained from the crown, in lieu of the arrears due his father, the grant of the province in North America, and it was Charles II. who, in honor of Penn proposed the name Pennsylvania. Accompanied by emigrants, Penn sailed from Deal Sept. 5, 1682, for America, and landed at New Castle, Del., Oct. 24, and at Upland, Pa. (now Chester), Oct. 29, 1682. The work of organization was rapid. A few Swedes and Dutch had previously settled in Pennsylvania, but colonists from various regions of the Old World now poured in. Universal toleration was proclaimed, a charter of liberties was solemnly consecrated, and a democratic government was established. In his dealings with the Indians and their chiefs, Penn manifested his accustomed magnanimity and justice. The capital city, Philadelphia, was planned on a scale commensurate with Pennsylvania's expected greatness. Penn's family was in England. Hearing that his wife was ill he, intrusting his unfinished undertakings to such men as he deemed competent, hurried anxiously back. The overthrow of James was in more than one respect a misfortune for Penn. In the spring of 1690 he was arrested on the charge of holding treasonable correspondence with the dethroned monarch. The absurdity of the charge being swiftly and glaringly evident, Penn was set at liberty. Yet, though his conduct continued to be blameless, he was, by an order in council, stripped, March 14, 1692, of his title to the Pennsylvanian government — a tyrannical act involving his utter ruin; for, besides that he had risked his whole substance in the Pennsylvanian experiment, his estates, both in England and in Ireland, had been grievously mismanaged by incompetent or dishonest overseers. An order in council capriciously restored to Penn, in 1694, that Pennsylvanian government of which an order in council had so capriciously robbed him. But the ownership of territories so extensive was almost barren to him. A visit to his Irish estates preluded Penn's second expedition to the New World. His family went with him to America, though rather from necessity than choice. Penn's residence in the colony was more beneficial to the colonists than to himself. In 1701 he returned to England, and, being encumbered with debts, endeavored to negotiate the sale of Pennsylvania to the crown for $60,000. This negotiation was interrupted in 1712, through his being attacked by an apopleptic fit, which, happening twice afterward, greatly impaired his mental faculties. He survived for six years longer, but with a constitution much shattered, and quite unfitted for any serious employment. Penn died July 29, 1718; and was buried at the village of Jordan, Buckinghamshire.

Pennant, a small flag or banner. In naval affairs, a long, narrow piece of bunting carried at the mast-heads of vessels of war.

Penn College, a coeducational institution in Oskaloosa, Ia.; founded in 1873 under the auspices of the Society of Friends.

Pennington, Alexander Cummings McWhorter, an American military officer; born in Newark, N. J., Jan. 8, 1838; was graduated at the United States Military Academy in 1860; served through the Civil War, during the latter part in command of a brigade in the Army of the Potomac, and was brevetted Brigadier-General of volunteers. After the war he served at various army posts, was promoted Brigadier-General, U. S. A., in 1899 and was retired Oct. 17, of that year.

Pennon, or **Penon,** a small flag or streamer half the size of the guidon, but shaped like it, of a swallow tail form, attached to the handle of a lance or spear.

Pennsylvania, a State in the North Atlantic Division of the North American Union, bounded by New York, New Jersey, Delaware, Maryland, West Virginia, Ohio, and Lake Erie; one of the original 13 States; capital, Harrisburg; number of counties, 67; area, 44,985 square miles; pop. (1890) 5,258,014; (1900) 6,302,115.

The State presents three well defined physical divisions, the E. plain, middle hills, and W. highlands. A number of parallel ridges cross it from N. to S. with a maximum altitude of 2,500 feet. Lake Erie forms 45 miles of the N. boundary of the State and has an excellent harbor at Erie.

Pennsylvania ranks first in the United States in the amount and value of her commercial mineral products. In 1900 she ranked first in the production of coal, coke, natural gas, building stones, flint, feldspar, mineral paints, portland cement, and iron and steel products; second in petroleum and clay products; third in rock cement; and fifth in iron ores. Over 50 per cent. of the iron and steel produced in the United States is worked in Pennsylvania, in the vicinity of Pittsburg. This city is the center of the iron industry of the world.

As an agricultural State, Pennsylvania stands high. It ranks first in the United States in the production of rye, and has large crops of other cereals. The S. E. counties are remarkably fertile, Chester being noted for its nurseries, and Lancaster for its tobacco crop. The natural forest trees include pine, poplar, beech, sugar maple, chestnut, birch, wild cherry, walnut, oak, hickory, ash, cherry, elm, sycamore, and hemlock. Considerable attention is paid to stock raising, and dairying is becoming one of the leading industries.

Pennsylvania ranks second in the United States in the value of her manufactures. Besides the leading industries of coal mining, coke, iron and steel manufacture, and the production of petroleum, the State has extensive manufactures of plate and bottle glass, paper bags, rag carpets, woolen goods, glue, railroad cars, drugs, and chemicals, gunpowder, leather and lumber. In 1900, according to the United States census, there were 52,185 manufacturing establishments; employing $1,551,542,712 capital, and 733,834 persons; paying $332,072,670 for wages, and $1,042,561,628 for materials; and having finished products valued at $1,835,104,431.

The imports of merchandise at the ports of Philadelphia and Erie for 1900 amounted in value to $49,711,066; and the exports, $31,364,722.

At the end of the school year, 1899–1900, the children of school age numbered 1,759,300; enrollment in public schools, 1,151,880. There were 14,932 buildings used for public school purposes, public school property valued at $54,797,506, and 29,390 teachers. The principal colleges include, the University of Pennsylvania, at Philadelphia; Lehigh University, at South Bethlehem; Lafayette College, Easton, and many others.

The governor is elected for a term of four years and receives a salary of $10,000 per annum. Legislative sessions are held biennially in odd years, beginning on the first Tuesday in January, and are unlimited in length. The Legislature has 49 members in the Senate and 205 members in the House. There are 28 Representatives in Congress. The country about Delaware Bay was first settled by the Swedes, and then passed first under Dutch, and then under the English jurisdiction generally established in 1664. In 1681

the territory W. of the Delaware was granted by royal charter to William Penn who colonized it; and, by the industry and high character of the Society of Friends, by cultivating peace with the Indians, and encouraging immigration, founded a flourishing State, which, long before the Revolution became the seat of learning, wealth, and refinement.

Pennsylvania, University of, a coeducational, non-sectarian institution in Philadelphia, Pa.; founded 1740.

Pennsylvania College, a coeducational institution in Gettysburg, Pa.; founded in 1832 under the auspices of the Lutheran Church.

Pennsylvania State College, a coeducational, non-sectarian institution in State College, Pa.; founded in 1855.

Pennsylvania Dutch, a German dialect mixed with English, spoken in Pennsylvania by German settlers and their descendants.

Penny. In the United States the term penny is commonly used for "cent," the 100th part of a dollar. It consists of 95 per cent. of copper and 5 per cent. tin and zinc. There are 1,000,000,000 pennies in circulation throughout the country and the Philadelphia mint is turning them out at the rate of 4,000,000 a month to keep up the supply. The British penny is the 12th part of a British shilling, and worth about two cents.

Pennyroyal, a species of mint, sometimes grown in gardens for its reputed medicinal qualities. The name pennyroyal is given also to a small plant, allied to the mints, and having, like them, a pleasant aromatic smell and a warm pungent taste.

Pennyweight, a Troy weight, containing 24 grains, each grain being equal to a grain of wheat from the middle of the ear, well dried. Twenty pennyweights make one ounce Troy weight. The name is derived from its having been originally the weight of the silver penny.

Pensacola Bay, an inlet of the Gulf of Mexico, at the W. extremity of Florida, defended at its entrance by Fort Pickens, on Santa Rosa Island, and Fort McRea, on the mainland. The entrance between Santa Rosa Island and the mainland is a mile wide. Besides a lighthouse, there are a navy yard, marine hospital and barracks, and in the vicinity the villages of Bagdad and Milton.

Pension, an allowance of money, in stipulated amounts and in periodical payments, made by government to persons in recognition of past service, military, naval, civil, or judicial. The payment of pensions in the United States is regulated by special congressional enactment. The system has been in operation nearly ever since the adoption of the Federal Constitution. Pensions are generally predicated and allowed on account of some disablement which occurred in the military or naval service of the United States while in line of duty. There were on the pension rolls in 1902, 999,446 names. Classified by wars the pensioners then were: Revolutionary, 8; War of 1812, 1,318; Indian wars, 4,223; Mexican War, 14,485; Civil War, 969,947; Spanish War, 9,465. The amount paid pensioners from 1861 to 1902 inclusive was $2,841,048,064.46. While the numbers of pensioners on account of the Civil War is decreasing, that from the Spanish war is increasing. The general pension law for survivors of the Mexican war includes thousands of ex-Confederates and there is a growing feeling that Union Civil War veterans should have equally favorable treatment in the form of a general pension law.

The American pension system is the most munificent and liberal to all classes of any country in the world, and in number of pensioners and the amount paid it far exceeds that of any other nation.

Pentateuch, a term applied exclusively to the first five books of the Old Testament collectively, termed in Hebrew torah = the law. The first mention of the five-fold division is by Josephus.

Pentecost, one of the three greatest Jewish festivals. Its Greek name was given because it was held on the 50th day, counting from the second of the Passover, whence it was called in Hebrew the Feast of Weeks. By this account the enumeration of the weeks was to be from "such time as thou beginnest to put the sickle to the corn." It was called also the Feast of Harvest.

Pentecost, George Frederick, an American clergyman; born in Albion, Ill., Sept. 23, 1842; entered Georgetown University but left to volunteer for the Union army; was chaplain in 1862–1864, and filled various pastorates in different parts of the country in 1864–1880. In 1887 he engaged in evangelical work in Scotland and then went to India on a special mission to the English-speaking Brahmins. He was called to the First Presbyterian Church at Yonkers, N. Y., in 1897. He wrote: "Boyhood of Christ"; "Bible Studies"; etc.

Penumbra, a faint shadow thrown by a luminous body. It is brighter than the true shadow, though less so than the luminous body itself. It is a modification of the true shadow produced by the commingling with it of rays emitted by a portion of the luminous body. In an eclipse of the moon, the rays which have just grazed the edge of the earth are bent inward by the refraction of the atmosphere, besides having become tinged with a ruddy or copper hue. Falling on the moon, then in shadow, they often render it faintly visible, and though of a copper hue, yet bright enough to permit markings on its surface to be seen. Yet at this time the moon is so much behind the earth that it cannot be reached by direct rays from the sun.

Peonage, a system of agricultural servitude common in Mexico, and some other parts of Spanish America. The peon in debt to his employer was by the Spanish colonial system bound to labor for his employer till the debt was paid. Peonage in New Mexico was abolished by Act of Congress in 1867; it was also abolished in the Argentine Republic.

Peony, a genus of plants very generally cultivated in gardens for the sake of their large showy flowers. The species are mostly herbaceous, having perennial tuberous roots and large deeply-lobed leaves. The flowers are solitary, and of a variety of colors, crimson, purplish, pink, yellow, and white. The flowers, however, have no smell, or not an agreeable one, except in the case of a shrubby species, a native of China, of which several varieties, with beautiful whitish flowers stained with pink, are cultivated in gardens.

Pepin, The Short, a King of France, the first of the Carlovingian kings. He was at first mayor of the palace under Childeric III.; but in 752 he dethroned that monarch and confined him in a monastery. Having requested and obtained the sanction of the Pope, Pepin was constituted king. He assisted Pope Stephen III. against the Longobards, defeated the Saxons, Bavarians, and other German nations, and united Aquitaine to his crown. After a reign of 16 years, he died in St. Denis, in 768. His son Charlemagne succeeded him as King of the Franks.

Pepper, John Henry, an English chemist and mechanical inventor; born in Westminster, England, June 17, 1821; was appointed analytical chemist at the Royal Polytechnic in 1848, and wrote several handbooks of popular science. He is best known as the improver and exhibitor of "Pepper's Ghost," in its earliest form the invention of Henry Dircks, a device for associating on the same stage living persons and phantoms to act together. The phantom is produced by a large sheet of unsilvered glass on the stage, practically invisible to the spectators, which reflects to them, along with a visible actor or actors, the appearance of another actor on an understage, who is himself invisible. Pepper traveled with this show in the United States and Australia, and became public analyst in Brisbane. Died 1900.

Peppermint, a mint with oblong, lanceolate, serrate, glabrous leaves; pedicels and flowers nearly smooth; flowers in cylindrical spikes, interrupted below. Oil of peppermint, the oil distilled from the fresh flowers of peppermint. It enters into the composition of peppermint water, essence of peppermint, and spirit of peppermint. It is stimulant and carminative, and is used to correct flatulence and griping in the intestinal canal, and to mask the nauseous taste of some medicines.

Pepper Root, a perennial herbaceous plant, a native of North America, with pairs of ternate leaves, and racemes of white flowers; the root of which has a pungent mustard-like taste, and is used as a condiment.

Pepsin, an azotized ferment, related to the proteids, and contained in gastric juice. It possesses the power, in

conjunction with hydrochloric acid, of dissolving the insoluble proteids and converting them into peptones. Pepsin is prepared from the stomach of the pig or calf on a commercial scale, and is usually employed in the form of pills or dissolved in wine.

Pepys, Samuel, an English author, secretary to the admiralty in the reigns of Charles II. and James II.; born in Brampton, Huntingdonshire, in 1632, and educated at Cambridge. He early acquired the patronage of Sir Edward Montagu, afterward Earl of Sandwich, who employed him as secretary in the expedition for bringing Charles II. from Holland. On his return he was appointed one of the principal officers of the navy. In 1673, when the king took the admiralty into his own hands, Pepys was appointed secretary to that office, and performed his duties with great credit. During the excitement of the Popish Plot he was committed to the Tower, but was after some time discharged without a trial, and reinstated in his office at the admiralty, which he held till the abdication of James II. He was president of the Royal Society for two years; but his title to fame rests upon his "Diary" (1659–1669), which is a most entertaining work, revealing the writer's own character very plainly, giving an excellent picture of contemporary life, and of great value for the history of the court of Charles II. He died in 1703.

Pequot, Fort, an old Indian fort on Pequot Hill, about 8 miles N. E. of New London, Conn.

Pequots, or **Pequods,** a tribe of American Indians, a branch of the Mohicans, were warlike and powerful in the country round the Thames river when Connecticut was first settled, and made treaties with the Dutch and English. Hostilities, however, broke out in 1637, and the tribe was cut to pieces and scattered; yet a few descendants may be found at Green Bay, Wis.

Perch, the river perch. The upper part of the body is of a warm, greenish-brown tint, becoming golden on the sides, and white on the belly; there are always broad, vertical, dark bands passing down the sides. The perch is generally distributed over America, Europe, and Northern Asia, frequenting still waters, and sometimes descending into brackish waters. Perch feed on smaller fish, insects, and worms. The female deposits her eggs, united by a viscous matter, in long bands, on aquatic plants. The Great Lakes in the United States abound in perch.

Pereira da Silva, Joao Manuel, a Brazilian historian; born in Rio de Janeiro, in 1818. He wrote: "History of the Founding of the Empire of Brazil"; "Brazilian Plutarch"; "Jeronimo Corte-Real"; "Second Period of the Reign of Dom Pedro I. in Brazil"; etc.

Perennial, lasting or continuing without cessation throughout the year; hence, perpetual; unceasing; never failing; as perennial fountains. Continuing without intermission, as a fever. In botany, one of those plants whose roots remain alive more years than two, but whose stems flower and perish annually.

Perez de Zambrana Luisa, a Cuban story-writer and poet; born in El Cobre, near Santiago, in 1837. Several of her poems have been translated into Italian and French.

Perfumes, substances emitting an agreeable odor, and used about the person, the dress, or the dwelling, having also some value as disinfectants. Perfumes of various sorts have been held in high estimation from the most ancient times.

Pericardium, a conical membranous sac containing the heart and the commencement of the great vessels, to the extent of about two inches from their origin.

Pericles, the great Athenian statesman; born in Athens about 495 B. C., of a noble, influential and wealthy family. He received a careful education from the most eminent teachers. He applied himself to the study of philosophy under the guidance of Anaxagoras, who had a most powerful influence on him, and remained one of his most intimate friends. To his other acquirements he added that of extraordinary eloquence, and thus prepared, he began to take part in public affairs about 469 B. C., and the popular party soon recognized him as their chief. Pericles was great as a general, and he displayed extraordinary valor

at the battle of Tanagra; he commanded the expedition against Sicyon and Acarnania; recovered Delphi from the Spartans, and quelled the revolt of Eubœa. In 444 B. C. he became sole ruler of Athens, and the aim of his policy was to extend and strengthen her empire, and to make the people worthy of their position. Under his administration the navy was increased, commerce extended, general prosperity advanced, and Athens adorned with noble buildings. In 444 B. C. Pericles established a democratic constitution in Samos, and a counter revolution taking place, he besieged the town, and after nine months reduced it, a success which procured him extraordinary honors on his return. Pericles directed Athens during the first two years of the Peloponnesian War, in the second year of which the plague broke out at Athens, and the popular discontent vented itself in the prosecution of the great ruler. He was fined, but soon regained his influence. The plague carried off many of his friends and relatives, and, last of all, his favorite son, Paralus. This loss broke his heart, and after a lingering sickness he died 429 B. C. He left a son by Aspasia, who took his father's name, and was legitimated by the people.

Perier, Casimir, a French statesman; born in Grenoble, Oct. 21, 1777. A Parisian banker, he condemned in 1817 the financial policy of the ministry and thereby won a seat in the Chamber of Deputies. In 1828 he held the portfolio of finance under Martignac, but resigned it in August of the next year. Having taken an active part in the July revolution (1830), he was rewarded with a seat in the cabinet. When Laffitte became president of the council (Nov. 2), Perier undertook the presidency of the Chamber of Deputies. On March 13, 1831, he succeeded Laffitte as minister, and sternly repressed all attempts at revolution. He died May 16, 1832.

Perigee, the point in the moon's orbit at which she is nearest the earth.

Perihelion, or **Perihelium,** the part of a planet's or comet's orbit where it is nearest the sun, as opposed to aphelion.

Perim, a barren island, and coaling and telegraph station, belonging to Great Britain, in the Strait of Bab-el-Mandeb, at the S. entrance to the Red Sea. It is about 3½ miles long by 2½ wide, crescent-shaped, the horns embracing a spacious harbor.

Periodicity, the disposition of certain things or phenomena to recur at stated periods. It denotes the regular or nearly regular recurrence of certain phenomena of animal life, such as sleep and hunger. The first indication of a diseased state is generally a disturbance of the natural or acquired periodicity of the various functions of life.

Periosteum, a dense lining membrane covering the whole surface of bone, except the articulations, which have a thin cartilaginous layer. As long as a single portion of periosteum remains alive bone is capable of being reproduced.

Peritonitis, inflammation of the peritoneum; it is exceedingly painful and dangerous, from its extent and connection with important organs. Peritonitis may exist either as an acute or chronic disease. In the former there is usually great pain and tenderness of the abdomen, accompanied with fever, and a frequent, small, and hard pulse. Its causes are various, as by cold, mechanical injuries of the peritoneum, the development of tumors, etc.

Periwinkle, a genus of marine Gasteropods. The commonest is abundant between tide marks on the rocks, and is often collected and used for food. It is boiled in its shell, extracted as eaten, and is very palatable. Periwinkles crawl about under water, but usually remain passive when left uncovered by the tide. Without water they can survive for many hours, and they are also able to endure a considerable freshening of the salt water. They feed on sea weeds, and are often useful in keeping beds of young oysters from being smothered.

Perjury, the taking of a wilful false oath or affirmation, by a witness lawfully required to depose the truth in a matter of some consequence to the point in question. A false oath, therefore, taken before no court, or before a court incompetent to try the issue in question, does not constitute the offense of perjury at common law. Perjury is a felony.

Perkins, Charles Callahan, an American writer and lecturer on art; born in Boston, in March, 1823; was a prominent art critic and lecturer, and president of the Boston Art Club (1869–1879). He died in Windsor, Vt., Aug. 25, 1886.

Perkins, Frederic Beecher, an American miscellaneous writer; born in Hartford, Conn., Sept. 27, 1828. He received his education at Yale; studied law, and was admitted to the bar in 1851. He was librarian of the San Francisco Library from 1880 to 1887. He died in Morristown, N. J., Jan. 29, 1899.

Perkins, George Hamilton, an American naval officer; born in Hopkinton, N. H., Oct. 20, 1836; was graduated at the United States Naval Academy in 1856; took part in numerous naval engagements in the Civil War, chiefly on the Mississippi; and was in the battle of Mobile Bay. He was promoted commodore in 1896. He died in Boston, Mass., Oct. 28, 1899.

Perkins, Jacob, an American inventor; born in Newburyport, Mass., in 1766. He early became distinguished for his ingenuity, and when 21 years of age, he was employed by the commonwealth of this State to make new dies for copper coinage. Becoming interested in the subject of steam artillery, Perkins constructed a gun in which steam generated at an enormous pressure, operated as the propelling power instead of gunpowder. His invention was satisfactorily tested in presence of the Duke of Wellington and a number of artillery officers, but was finally condemned as being inapplicable to modern warfare. He died in London, in 1849.

Perkins, James Breck, an American lawyer and historical writer of Rochester, N. Y.; born in St. Croix Falls, Wis., Nov. 4, 1847. His chief works are: "France under Mazarin"; "France under the Regency"; "France under Louis XV.," etc.

Perkins, Justin, an American missionary; born in West Springfield, Mass., March 12, 1805; was educated at Amherst and Andover. In 1833 he went to Persia as a missionary, and was active in establishing schools in that country. His works include: "Missionary Life in Persia" (1861); He died in Chicopee, Mass., Dec. 31, 1869.

Perkins, William Oscar, an American composer; born in Stockbridge, Vt., May 23, 1831; was educated at Harvard University, and in 1879 took the degree of Mus. D., at Hamilton College, N. Y. He subsequently studied music in Boston and Europe. Mr. Perkins was well known as a conductor, organizing the Mendelssohn Vocal Quartet, the first male quartet for concert singing in the United States; conducting at Boston Music Hall, and at various musical festivals; and being a member of the governing board of the Handel and Haydn Society. He published over 60 anthems, cantatas and set pieces. Died in Boston, Mass., Jan. 13, 1902.

Pernambuco, a town in Brazil, capital of the province of the same name, on the E. coast. It consists of three distinct parts: Recife, occupying a small peninsula; San Antonio, on an island; and Boa Vista, on the mainland, the three parts being connected by iron bridges. Recife is the principal seat of business. The trade is extensive. The principal exports are sugar and cotton; and the chief imports Manchester goods and hardware. Pernambuco was founded by the Portuguese in the 16th century. From 1630 to 1654 it was in the hands of the Dutch, under whom it prospered greatly. It is now the third largest city in Brazil, and the second in point of commercial importance. Pop. 111,556. The province has an area of 49,625 square miles. Pop. 1,030,224.

Perpetual Motion. A machine which, according to the hopes of its inventors, after it has been once set in motion, will keep in motion without drawing on any external source of energy. Such a machine would entirely controvert the established principle of the conservation of energy, and since the establishment of that principle the search for a perpetual motion has been judged visionary. Perpetual motions have been founded on the hydrostatic paradox, on capillary attraction, on electricity and magnetism, but in every case the result has been a failure.

Perrin, Benadotte, an American educator; born in Goshen, Conn., Sept.

15, 1847; was graduated at Yale College in 1869; studied at Leipsic and Berlin Universities in 1876–1879; and was Professor of Greek in Western Reserve University in 1881–1893, and was then appointed to the chair of Greek at Yale University. He has edited many text-books on classical subjects.

Perrot, Georges, a French archæologist; born in Villeneuve-Saint-Georges, France, Nov. 12, 1832. He became Professor of Archæology in the Faculty of Letters (1877), and director of the Upper Normal School (1883). During his archæological investigations in Asia Minor, he made the first complete copy of the celebrated inscription on the monument to Augustus at Ancyra. He enjoys a wide reputation as co-author, with the architect C. Chipiez, of a "History of Art in Antiquity," in five volumes, treating of art in Egypt, Chaldæa, Asia Minor, etc. They have been translated into English.

Perry, Bliss, an American educator and editor; born in Williamstown, Mass., Nov. 25, 1860. He was Professor of Oratory and Æsthetic Criticism at Princeton University, resigning to become editor of the "Atlantic Monthly."

Perry, Nora, an American author; born in Dudley, Mass., in 1832. For many years she was a correspondent of the Chicago "Tribune" and the Providence "Journal." Early in her career she gained a reputation as a poet, but was more widely known as a writer of stories for girls. She died in 1896.

Perry, Oliver Hazard, an American naval officer; born in South Kingston, R. I., Aug. 23, 1785; famous for his defeat of a British force on Lake Erie in 1813. Perry, who had nine vessels, with 54 guns and 492 officers and men, fought six vessels, with 63 guns and 502 officers and men, lost four-fifths of the crew of his flagship, and finally won a complete victory, which he announced in the brief dispatch: "We have met the enemy, and they are ours — two ships, two brigs, one schooner, and one sloop." Perry died of yellow fever in Trinidad, Aug. 23, 1819, and was buried at Newport, R. I., where there is a bronze statue to his memory.

Perry, Thomas Sergeant, an American author; born in Newport, R. I., in 1845; was graduated at Harvard in 1866; tutor in German there, 1868–1872; and instructor in English, 1877–1881. He spent many years abroad, and was a frequent contributor to magazines. One of his best efforts is "The Evolution of the Snob." Other works are: "English Literature in the 18th Century"; "History of Greek Literature," etc.

Perry, William Stevens, an American clergyman and historian; born in Providence, R. I., Jan. 22, 1832. He became Protestant Episcopal bishop of Iowa in 1876. Among the best known of his numerous books are: "Documentary History of the Protestant Episcopal Church"; "History of the American Episcopal Church"; "Life Lessons from the Book of Proverbs." He died in Dubuque, Ia., May 13, 1898.

Perseus, or **Persus,** the last king of Macedonia, son of Philip V. From jealousy of his younger brother Demetrius, he accused him falsely to his father, and induced him to put him to death. He came to the throne on the death of Philip, 178 B. C. The great event of his reign was the war with the Romans, which, long expected, began in 171 and ended in 178, by the total defeat of Perseus at Pydna, by L. Æmilius Paulus. Perseus escaped with his children and treasures to Samothrace, but soon gave himself up, and after being led in triumph to Rome, was cast into prison. He was, however, allowed to spend his last years at Alba. Macedonia became a Roman province.

Persia (Persian Iran), an extensive country of Asia, bounded on the N. by the Caspian Sea, the Transcaspian and Transcaucasian provinces of Russia; S. by Persian Gulf and Indian Ocean; E. by Russian territory, Afghanistan and Baluchistan, and W. by Asiatic Turkey. Its length obliquely from N. W. to S. E. is 1,500 miles; area, about 628,000 square miles.

On the N. W. and S., several lofty mountain ranges—some of considerable length, others short and abrupt — intersect the land in many directions, the center of the country consisting in general of a vast plain or table-land. The provinces, however, along the S.

and W. margin of the Caspian are an exception to the rest of the country, and present some of the most beautiful and fruitful pictures of richness and abundance to be found in Persia. It has been computed that barely a third of the entire kingdom is fit for cultivation.

The vegetable productions of Persia embrace all kinds of legumes and cereals, except rye, oats, and rice; barley and wheat are the most abundant crops. Drugs of various kinds are obtained, such as senna, rhubarb, gums, opium, etc.; as also oils, cotton, indigo, sugar, madder, dates, pistachio nuts, and tobacco; while in flowers, and the perfumes extracted from them, especially the attar of roses, no country in the world can compare with Persia for beauty, fragrance, and abundance. Silk is an important item; and plantations of mulberry trees of great extent are very numerous. Vast flocks of sheep and goats are pastured over the country, the property and wealth of the wandering tribes of the interior, the Eelauts, a kind of Bedouins, devoting themselves to pastoral habits. The animals for which Persia is famous, are camels, horses, mules, oxen, asses, and buffaloes. The mineral wealth consists of silver, copper, lead, iron, antimony, salt, precious stones — especially turquoise — bitumen, and springs of naphtha. There are also large, undeveloped fields of coal and petroleum. One of the features of Persia is the abundance of salt in the soil, and the large number of its salt lakes; about 30 pure salinas have no outlet; and one, the largest, Uremiyah, is 280 miles in circumference, and, though supplied by 14 rivers, its water is so dense, bitter, and loaded with salt, that no fish can live in it. The climate of Persia embraces the rigors experienced on the mountains of the snowy N., and the heats felt on the sandy plains of Africa. Cyrus the Younger told Xenophon that his father's empire was so vast that in the N. the people perished of cold, and in the S. were suffocated with heat.

The manufactures of Persia are numerous and important, and embrace all kinds of silk fabrics, satins, taffetas, textures of silk and cotton, silk and goat's hair, or silk and camel's hair; brocades, camel's hair shawls, gold tissues, gold velvet, camlets, carpets, cottons, leather, firearms, sword blades, saddlery, and jewelry. Its principal trade is carried on with Russia; and, though the foreign export trade is insignificant, the internal traffic is very great and is entirely carried on by caravans.

The government is highly despotic; an edict of the sovereign once passed, can never be repealed, the word of the Shah is irrevocable, and the lives and property of the people are in his hands. The government is carried on by the Shah and his two principal ministers, the Grand Vizier and the Lord Treasurer. The religion of the Persians is Mohammedanism. In physical appearance the Persians are inclined to corpulence, have black hair, a high forehead, an aquiline nose, and a largely developed chin; and in color present every variety, from the dark brown of the Indian to the light olive of the colder regions. The men are strong, robust, fond of exercise and martial glory, shave their heads, but dye their beards black, preserving them with an almost religious veneration. The Persians are regarded as a gay and hospitable race, but prone to sudden anger and treachery.

The Persian language is the most celebrated of all the Oriental tongues, for strength, copiousness, beauty, and melody, and is written from the right to the left. The earliest account we possess of Persia is from the Bible, from which we learn that, in the time of Abraham, 1921 B. C., that portion of modern Persia known as Elam, or Suisiana, Southern Persia, was a powerful monarchy. But the Persians, as a nation, first rose into notice on the ruins of the great empires founded on the Euphrates. Babylon was taken by Cyrus, and his empire extended wider than any before established in the world. After a feeble struggle, it succumbed to the brave and disciplined armies of Alexander. It was then split into fragments by the decease of its founder; but Greeks and Greek sovereigns continued, during several centuries, to reign over Asia. About two centuries before Christ, Arsaces founded the monarchy of the Parthians; and in the 3d century arose the dynasty of the Sassanidæ, who restored the name, with the religion and laws, of ancient Persia. They were overthrown by the Mohammedan invaders,

who suffered in their turn from the successive invasions by the descendants of Genghis, Timur, and by the Turks, who entirely changed the aspect of Western Asia. At length, in 1501, a native dynasty again arose, under Ismail, who placed himself on the throne. His posterity having sunk into voluptuousness, Persia, in the beginning of the 18th century, was overrun by the Afghans, who carried fire and sword through its remotest extremities, and reduced its proudest capitals to ashes. The atrocities of the Afghans were avenged, and the independence of Persia vindicated by Nadir Shah, but though the victories of this daring chief threw a luster on his country, after his death it was almost torn to pieces by civil war, till the fortune of arms gave a decided superiority to Kereim, or Kurreem Khan. His death gave rise to another disputed succession, with civil wars as furious as before. At length, Aga Mahommed, a eunuch, raised himself, by crimes and daring, to the sovereignty, and not only swayed it during his lifetime, but founded a dynasty represented by Nassr-ed-Din, who was born in 1831, and ascended the throne in 1848. His son, Muzaffar-ed-Din, succeeded him in 1896.

Persian Gulf, an arm of the Indian Ocean which penetrates between Arabia and Persia to the extent of 650 miles in a general N. W. direction. Its breadth varies from 55 miles at the mouth to 250 miles, and the area is estimated at 77,450 square miles, not including the islands, which are scattered over the W. half, or lie close inshore along the E. side. Its greatest depth is about 50 fathoms.

Persimmon, or **Persimon,** a tree 60 feet or more in height, with ovate, oblong, taper-pointed, shining leaves, pale yellow flowers, and an orange-colored succulent fruit an inch or more in diameter; very astringent when green, but eatable when bletted. It grows plentifully in the Southern and South Atlantic States. The fruit is brewed into beer, and yields an ardent spirit on distillation.

Personalty, or **Personal Property,** movables; chattels; things belonging to the person, as money, jewels, furniture, etc., as distinguished from real estate in lands and houses.

Perspective, the science of representing appearances, and as such is opposed to geometry, which is the science of representing facts. It is founded upon such rules as can be deduced from the facts which are discovered by looking at objects through a sheet of glass or other transparent medium placed upright between the object and the observer. It is found when objects are so looked at that their apparent form is very different from their real one, both as regards shape and distinctness. The portion of the subject which deals with the changes in form is absolutely scientific; it is called linear perspective. The changes in distinctness are effected by distance and atmosphere, and differ constantly with different conditions of light and atmosphere. It is the purely artistic side of the science which is called aerial perspective, and success in its application depends on the individual ability of the artist.

Perspiration, watery matter, "breathed out," or made to expire from the system by means of the pores in the skin. It is more copious than the matter sent forth from the lungs by respiration, averaging 11 grains per minute against 7 from the lungs. The quantity varies greatly, and is affected by the amount of heat or dryness in the atmosphere, by the fluid drunk, by the exercise taken, by the relative activity of the kidneys, by medicine, etc. Besides keeping the skin in a healthy, moist condition, and acting as a refrigerator, perspiration takes its share in carrying off superfluous or noxious matter from the system. If stopped, morbid consequences are sure, sooner or later, to ensue.

Peru, a maritime republic of South America, bounded on the N. by Ecuador, on the W. by the Pacific, on the S. and S. E. by Bolivia and Chile, and on the E. by Brazil; area, 695,720 square miles; pop. 4,609,999; capital, Lima.

The country is 1,100 miles in length, 780 miles in extreme width along the N. boundary, but it is little more than 50 miles wide in the extreme S. The islands along the coast while few in number, are exceedingly valuable in that they are rich in guano, vast quantities having been exported.

The surface of Peru is divided into

three distinct and well defined tracts or belts, the climates of which are of every variety, from torrid heat to Arctic cold, and the productions of which range from the stunted herbage of the high mountain slopes to the oranges and citrons, the sugar canes and cottons of the luxuriant tropical valleys. These three regions are the Coast, the Sierra, and the Montana. The Sierra embraces all the mountainous region between the W. base of the maritime Cordillera and the E. base of the Andes, or the East Cordillera. Here the

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valleys enjoy an Indian climate, and are rich in tropical productions; to the N. and E. extend luxuriant forests, while the numberless mountain slopes are covered with waving crops of wheat, barley, and other cereals, and with potatoes; and higher up extend rich pasture lands, where huge herds of vicunas and pacas feed. The valley of the river Maranon, which is upward of 300 miles in length, is narrow, deep, and nearer the equator than any other valley of the Sierra, and consequently it is the hottest portion of this region, and its vegetation is thoroughly tropical in character. The conformation of the surface of the Sierra is of the most wonderful description.

After the table-lands of Tibet, those of the Peruvian Andes are the highest in the world; but, unlike those of Tibet, the tablelands of Peru are the seat of a comparatively high civilization, and are studded over with towns and villages, perched on heights exceeding in elevation the summits of the Jungfrau and the Matterhorn. Nor are such towns the mere eyries of miners who are tempted to ascend thus high in search of the precious metals; for, even at this elevation, the climate is pleasant, and wheat, maize, barley, rye, and potatoes thrive well. The climate of the Sierra, however, is not always so delightful. In general terms it may be described as mild and variable, with moderate rains. In the district of Paucartambo rain falls 300 days in the year. A country, however, of such an uneven surface, of snow-covered peaks and tropical valleys, embraces every variety of climate.

The gold standard is now permanently established in Peru. The nation has entered upon a new period of industrial activity. Numerous companies have been formed to explore the Amazonian region; new roads are being opened in every direction. There is marked confidence in the stability of order, and under the protection of peace old financial institutions and industrial and mining enterprises are thriving and public wealth is rapidly increasing.

The wealth and resources of Peru consist not in its manufactures, but entirely in mineral, vegetable, and animal products. Of the precious metals, the production has greatly fallen off since Peru became an independent State. Nevertheless, Peru possesses vast metallic riches. The Andes abound in mines of gold, silver, copper, lead, bismuth, etc.; and in the Montana gold is said to exist in abundance in veins and in pools on the margins of rivers. The vegetable productions of Peru are of every variety, embracing the products both of temperate and tropical climes. North American cereals and vegetables are

grown with perfect success, together with maize, rice, pumpkins, tobacco, coffee, sugar cane, cotton, etc. Fruits of the most delicious flavor are grown in endless variety. Cotton, for which the soil and climate of Peru are admirably adapted, is now produced here in gradually increasing quantity. The land suited to the cultivation of this plant is excellent. The animals comprise those of North America, together with the llama and its allied species.

The republic of Peru, formerly the most important of the Spanish viceroyalties in South America, issued its declaration of independence July 28, 1821; but it was not till after a war, protracted till 1824, that the country gained its actual freedom from Spanish rule. The republic is politically divided into departments, and the departments into provinces. The present constitution, proclaimed Oct. 16, 1856, was revised Nov. 25, 1860. It is modeled on that of the United States, the legislative power being vested in a Senate and a House of Representatives, the former composed of deputies of the provinces, in proportion of one for every 30,000 inhabitants or fraction exceeding 15,000, and the latter of representatives nominated by the electoral colleges of the provinces of each department, at the rate of two when the department has two provinces and one more for every other two provinces. The executive power is entrusted to a president. There are two vice-presidents, who take the place of the president only in case of his death or incapacity, and they are elected for four years. The president has to exercise his executive functions through a cabinet of five ministers, holding office at his pleasure. None of the president's acts have any value without the signature of a minister.

By the terms of the constitution there exists absolute political, but not religious, freedom, the charter prohibiting the public exercise of any other religion than the Roman Catholic, which is declared the religion of the State. But practically there is a certain amount of tolerance, there being in Callao and Lima Anglican churches as well as Jewish synagogues. Elementary education is compulsory for both sexes, and is free in the public schools that are maintained by the municipalities. High schools maintained by the government in capitals of the departments, and some provinces pupils pay a mode fee. There is in Lima a central versity, called "Universidad de Marcos," the most ancient in Am ca; its charter was granted by Emperor Carlos V.; it has facul of jurisprudence, medicine, polit science, theology, and applied scie

Peru, the origin of whose name unknown, is now passing through third historical era, and is manifest its third phase of civilization. T present era may be said to date fr the conquest of the country by Spaniards in the early part of 16th century; the middle era embrac the rule of the Incas; and the earli era, about which exceedingly little known, is that of pre-Incarial per of unknown duration, during wh a nation, or nations, living in la cities flourished in the country, a had a civilization, a language, and religion different, and perhaps in so cases even more advanced, than tho of the Incas, who succeeded them an overran their territories.

Perugino, Pietro, an Italian pain er; born in Leitta Della Pieve, abo 1446. His real name was Pietro Vau ucci, but becoming a citizen of Per gia, he acquired the name by which he is best known. He studied under Ve rocchio, and soon attained great distinction as a painter in oil by his rich coloring. He was employed for 10 years n the Sistine Chapel and the Stanze of the Vatican, and on its return to Perugia opened a school, and had Raphael among his pupils. Perugino was a sordid and eccentric man; adhered obstinately to the stiff conventional forms of the 15th century, and in his latter years produced many works, unworthy of him, for gain. His best work is the "Pieta," in the Pitti Palace. He died in 1524.

Peruvian Balsam, in botany and commerce, the balsam flowing from incisions in the trunk of Myroxylon pereiræ. It is a thick, viscid, almost opaque, balsam, like molasses, with a reddish hue, and translucent, when in thin layers; its odor fragrant, its taste acrid, but aromatic. It is brought from San Salvador, in South America.